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I, Corey K Fallon, hereby submit this original work as part of the requirements for the degree of Doctor of Philosophy in Psychology.

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The Effects of a Trust Violation in a Team Decision-making Task:
Exploring the Affective Component of Trust

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The Effects of a Trust Violation in a Team Decision-making Task:

Exploring the Affective Component of Trust

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by

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Affective Component of Trust

Abstract

Trust is an attitude that influences the intention ‘to be vulnerable to another party when that party cannot be controlled or monitored’ (Mayer, Davis & Schoorman, 1995, p.712) and is important for work teams. Like all attitudes, the affective component of trust consists of an immediate evaluation and a response that is more deliberate and effortful. Capturing both aspects of the affective component may allow researchers to gain a more complete understanding of how trust develops. Implicit attitudes are an automatic affective response and may reflect the immediate evaluation component of trust. Explicit attitudes may reflect the more effortful and deliberate affective process that contributes to trust. In this study, 108 participants worked with two virtual teammates in two sessions. In session one, participants worked with a “fair” teammate and an “unfair” teammate on a financial decision-making task. The fair teammate shared the team earnings evenly with the participant, whereas the unfair teammate exploited the participant by taking most of the team earnings. In session two teammate behavior changed; either the fair teammate in the first session became unfair or the unfair teammate became fair. Participants completed measures of Emotion Management Ability, Fluid Intelligence, personality and Implicit and Explicit Affective Attitude Change. Participants also recorded the Economic Offer they would entrust to each teammate, Self-Report Trust and a perceived trustworthiness measure. The researcher explored whether teammate generosity affected trust and implicit attitude toward the teammates and whether change in trust in the unfair teammate would be associated with affective attitude change. Analyses revealed Explicit Affective Attitude Change significantly predicted both Self-Report Trust and Economic Offer, after controlling for cognitive predictors of trust. Implicit attitude predicted only Self-Report Trust and this prediction was moderated by Emotion Management Ability. Implicit Attitude Change also significantly predicted Explicit Attitude Change demonstrating an indirect influence on trust. Also, Agreeableness (A) was associated with change in implicit and explicit attitude. In addition, both measures of trust did increase significantly when the unfair teammate attempted to repair trust in Session Two, although trust never regained the levels obtained at baseline. These findings provide support for affect’s role in trust development and suggest both implicit and explicit attitude measures should be considered when predicting trust. The current study also suggests Emotion Management Ability may suppress implicit attitude’s direct influence on trust. Future research should explore how other trust violations, such as incompetence, might impact affect’s role in trust development.
Acknowledgements

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Brennan, thank you for being such an amazing little boy. I enjoyed taking breaks from my dissertation to talk with you about dinosaurs, and transformers, and transformers that transform into dinosaurs.
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The Effects of a Trust Violation in a Team Decision-making Task:

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**Definition of Trust**

Trust is an important social concept recognized by many to have a powerful impact on behaviors (Lee & See, 2004; Mayer et al., 1995; Serva, Fuller & Mayer, 2005). However, scholars differ significantly on the ways in which trust should be properly defined. For example, some scholars focus on the nature of trust as multi-faceted: Rempel, Holmes and Zanna (1985) identified three critical aspects of trust. First, trust develops from past experience and continues to evolve over time. Trust is not a static trait, but a changing state. Next, trust coincides with perceived trustworthiness of the trustee. According to Rempel et al. (1985) the trustee is believed to possess the trustworthy qualities such as dependability and benevolence. A third element identified by Rempel et al. (1985) is the role of feelings in the formation of trust. According to these researchers feelings of confidence and security in a person help define one’s trust in the individual. Lastly, for a person to experience trust they must put themselves at risk. Trust does not exist without the trustee experiencing some vulnerability. This last critical element of trust can also be found in Mayer et al.’s (1995) definition of trust. According to these researchers, trust is ‘a willingness to be vulnerable to another party when that party cannot be controlled or monitored’ (Mayer et al. 1995, p.712). Lee and See’s (2004) review of the literature points out that Mayer et al.’s (1995) definition of trust is useful but fails to make an important distinction between attitudes and intent to behave. According to Lee and See (2004), it is important to define trust as an attitude that may influence intention, which in the case of trust is a ‘willingness to be vulnerable’ (Mayer et al. 1995, p.712). Research by Ajzen and Fishbein (1974) suggests that many factors besides attitudes can influence intention to behave. In
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addition to trust, an individual’s intention to be vulnerable to another party could be influenced by several factors such as social norms (Ajzen & Fishbein, 1975), perceived risk (Shoorman, Mayer & Davis, 2007) and self-confidence (Lee & Moray, 1994). Therefore, it is more accurate to define trust as an *attitude that influences* the intention ‘to be vulnerable to another party when that party cannot be controlled or monitored’ (Mayer et al., 1995, p.712). In the current study this more precise definition was adopted to be the operational definition of trust.

**The Importance of Trust in the Workplace**

The impact of trust on behavior in work team environments is powerful (Lee & See, 2004; Mayer & Davis, 1999). Recently, Chughtai, Byrne and Flood (2015) investigated the relationship between employer leadership and employee emotional exhaustion and work engagement. Emotional exhaustion and work engagement are known to be associated with work performance (Maslach, Schaufeli, & Leiter, 2001; Rich, Lepine & Crawford, 2010). Chughtai et al. (2015) found that employee trust in the supervisor mediated the relationship between ethical leadership and employee engagement and emotional exhaustion. Trust can also lead to cooperative behavior (Mayer, et al. 1995). Cuadrado and Tabernero (2015) found that trust in a small work team moderated the impact of positive affect on prosocial behavior within the team. Positive affect was a stronger predictor of prosocial behavior when employees trusted their fellow team members. Trust in coworkers has also been associated with increased reliance without supervision. Serva et al. (2005) found that management teams during an information systems design project were significantly more likely to delegate important tasks to the design team when they trusted the team.
Perceived Trustworthiness

Given trust’s powerful impact on behavior, many researchers have attempted to uncover the antecedents or predictors of trust. According to Lewis and Weigert (1985), the cognitive component of trust is based on available evidence of trustworthiness accumulated over time. An individual determines whether or not another individual or organization is trustworthy and decides to trust based in part on this evidence (Lewis & Weigert, 1985). It appears that an individual’s perception of a teammate’s trustworthiness may be an important predictor of trust.

Trustworthiness is believed to consist of several components. Researchers have made a number of attempts to identify these components and the literature suggests some consistency. In an early investigation Solomon (1960) identified perceived benevolence as the key antecedent of trust. He defined trust as the extent to which one expects benevolence from an individual. Benevolence is the extent to which a person behaves in the best interests of his or her teammate regardless of personal gain (Mayer & Davis, 1999). According to Solomon (1960), the absence or presence of Benevolence is evidence of the individual’s trustworthiness and is used to inform trust. Larzelere and Huston (1980) studied trust between romantic partners. Like Solomon (1960) these researchers identified Benevolence as a component of trustworthiness but also included Honesty as a key antecedent of trust. Butler and Cantrell (1984) investigated trust in leader/subordinate relationships. Similar to previous researchers, Butler and Cantrell (1984) identified Benevolence (referred to as Loyalty) and Integrity as important predictors of trust. Honesty is an important element of Integrity, however Integrity also involves adherence to a set of principles valued by the teammate (Mayer & Davis, 1999). Butler and Cantrell (1984) included three new components of trustworthiness; Competence, Consistency and Openness. Competence was defined as possessing the knowledge and skills necessary for successful job
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performance. Consistency was defined as being reliable, predictable and demonstrating good judgment and Openness included ‘a mental accessibility . . . to share ideas and information freely’ (Butler & Cantrell, 1984, p.19). Rempel et al. (1985) identified three antecedents of trust. Similar to Butler and Cantrell’s (1984) Consistency, Rampel et al. (1985) identified Reliability as one of three factors influencing trust. Other factors identified by Rampel et al. (1985) include Dependability and Faith (Rampel et al., 1985). Mayer et al. (1995) developed a model of the factors influencing trust which includes Ability, Integrity and Benevolence (ABI) which they referred to as the factors of trustworthiness. Consistent with previous researchers, Mayer et al. (1995) included Integrity in their model and their Ability and Benevolence are similar to Butler and Cantrell’s (1984) Competence and Loyalty, respectively. More recently, Grover, Hasel, Manville & Serrano-Archimi (2014) used a grounded theory approach to trust in follower-leader work relationships. These researchers identified several factors that contribute to loss of followers’ trust in their leadership including: abuse of power, deception, competence, lack of caring and interference. With the exception of leader interference, all of the factors identified by Grover et al. (2014) can be classified as Integrity, Ability or Benevolence. As Table 1 below suggests, the components of trustworthiness most consistently identified in the literature are Integrity, Ability and Benevolence.
Affective Component of Trust

Table 1

*Predictors of Trust*

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<td>Integrity/Honesty</td>
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<td>X</td>
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<td>Competence/Ability</td>
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<td>Dependability</td>
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<td>Faith</td>
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<td>(lack of) Interference</td>
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As Mayer et al. (1995, p.717) explains, this set of three factors ‘provides a solid and parsimonious foundation for the empirical study of trust,’ and empirical evidence supports Mayer’s claim. For example, Xin, Techatassanasoontrorn & Tan (2015) found that the perceived Competency, Honesty and Benevolence of a mobile payment vendor were the strongest predictors of trust in one’s ability to pay with a mobile device. Frazier, Gooty, Little, and Nelson (2014) investigated the effects of attachment style and trustworthiness on trust in an employer. Path analysis results revealed a significant effect of perception of Ability and Integrity on trust in an employer. In addition, perceived Ability and Integrity of the employer mediated the relationship between employee attachment and trust in the employer.

Some research has revealed a high correlation between Benevolence and Integrity, which calls into question whether or not Benevolence and Integrity are distinct constructs. However,
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this correlation appears to occur more frequently in laboratory research and is not found in field samples where the trustor has had enough time to determine the extent of the trustee’s Benevolence (Schoorman, Mayer & Davis, 2007). It is important to emphasize that it is the perception of trustworthiness that predicts trust. The actual Benevolence, Integrity and Ability of the trustee are only relevant to the degree that they inform the trustor’s perception of trustworthiness.

Trust Violations and Repair

The dynamic nature of trust implies that it can increase and decrease with changes in trustee behavior and perception of trustworthiness. Researchers have identified several behaviors that may damage perception of trustworthiness and result in a trust violation that can be either temporary or permanent. A qualitative analysis by Grover et al. (2014) of actual trust violations in the workplace suggests many trust violations do not lead to a permanent loss of trust. Employer behaviors that resulted in recoverable trust violations included poor performance, ambiguous expectations, unpredictability, lack of support and interference (Grover et al. 2014). Interference is an interesting trust violation because it represents a lack of risk taking behavior on the part of the leader. A leader who interferes with the work of his or her employees communicates a lack of trust in his or her employees. Due to the reciprocal nature of trust, an individual who does not communicate trust with his or her actions will be perceived as untrustworthy and will not be trusted. Empirical support for the reciprocal nature of trust was found by Serva et al. (2005). Serva et al. (2005) found design teams’ trust in management increased when management delegated more to the design team and monitored their actions less.

While the impact of certain behaviors on trust can be significant, these behaviors need not be permanently damaging to trust. Steps can be taken to increase trust in the wake of these
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violations. Researchers have examined a variety of trust repair techniques (Braumeister & Jones, 1978; Das & Teng, 1998; Grover et al., 2014; Kim, Dirks, Cooper & Ferrin, 2006; Kramer & Lewicki, 2010; Schwietzer, 2006) (see Table 2).

Table 2

*Summary of Techniques used to Repair Trust*

<table>
<thead>
<tr>
<th>Unsuccessful Trust Repair Techniques</th>
<th>Successful Trust Repair Techniques</th>
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<tr>
<td>Blaming poor performance on external circumstances (Kim et al., 2006)</td>
<td>Specific to Trust Violation committed by a Leader (from Grover et al., 2014)</td>
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<td>Blaming nonperformance related trust violations on internal attributes (Kim et al., 2006)</td>
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<td>Employing policies and procedures to protect against future violations committed by the trust violator (Das &amp; Teng, 1998)</td>
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<td>Self-promotion in an area unrelated to the trust violation (e.g. providing evidence of good performance when violation was due to lack of integrity) (Braumeister &amp; Jones, 1978)</td>
<td>General Techniques</td>
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Other trust violations appear to result in irrecoverable damage to trust. According to Grover et al.’s (2014) study, some of these violations include loss of trust due to unfair favoritism and denigration fall under the broad category of abuse of power. It is important to
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note that Grover et al.’s (2014) finding is based on a qualitative analysis of interviews with employees who experienced these behaviors. Future research should include controlled experimentation to incorporate the suggested causal link between abuse of power and trust as well as abuse of power’s lasting impact as a trust violation.

Deception (Grover et al., 2014; Kim et al., 2006; Schweitzer et al., 2006) broken promises (Grover et al., 2014; Tomlinson & Carnes, 2015) and exploitation (Grover et al., 2014; King-Casas et al., 2008) also violate trust. However, empirical evidence is mixed over whether these violations can be repaired. Evidence from both laboratory research (Schweitzer et al., 2006) and a Grover et al.’s (2014) qualitative analysis of actual employees identified deception as an irrecoverable trust violation. However, a laboratory study with an undergraduate sample found placing part of the blame for a deceptive act on one’s boss does mitigate the negative impact of deception on trust (Kim et al., 2006). Grover et al.’s (2014) research also found that broken promises by leadership lead to irrecoverable violations of employee trust. However, recent laboratory research suggests that the trustor may take into consideration the cause of the broken promise in terms of its stability, controllability and locus of causality (Tomlinson & Carnes, 2015). According to Tomlinson and Carnes (2015), if the broken promise was due to unusual external circumstances outside of one’s control, the broken promise will be significantly less likely to result in a loss of perceived behavioral integrity. Finally, it is unclear if loss of trust due to exploitation can be repaired. Like unfair favoritism and denigration, Grover et al. (2014) also identifies exploitation as an abuse of power. According to their study, employees lose trust in leadership due to exploitation and this trust is irrecoverable. However, laboratory research suggests a trust violation due to exploitation can be repaired. King-Casas et al. (2008) assessed the impact of exploitation during a multi-round financial exchange game and share some
methodological features of the present study. The game is played by participant dyads consisting of an investor and a trustee. First, the investor is given a sum of money and they must choose how much of the sum to give to the trustee. The amount given to the trustee will be quadrupled and the trustee can then decide how much of the quadrupled sum to return to the investor. This economic exchange game is often referred to as the Trust Game (Berg, Dickhaut & McCabe, 1995; MacCannon, 2014; Stanley et al., 2011). The trustee can exploit the investor by refusing to return any of the money after it has been quadrupled. In King-Casas et al.’s (2008) study this exploitation caused investors to lose trust in their trustee, which was reflected by a decrease in the amount of money given to the trustee on subsequent rounds of the game. King-Casas et al. (2008) found trust could be repaired if the trustee reversed their behavior by sharing a generous amount of the quadrupled sum. The researchers concluded that this behavior signaled trustworthiness to the investors and worked to restore trust.

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The workers in Grover et al.’s (2014) study, who had their trust irrecoverably violated, experienced deep negative emotions in response to the violations, suggesting a connection between emotion and trust. Experimental evidence also appears to support this connection. In Mislin, Williams and Shaughnessy’s (2015) experiment trust behavior was measured in participants after receiving a positive mood induction. These researchers found that participants who experienced a happy mood were more likely to engage in trusting behavior with an anonymous teammate compared to a control group who received a neutral mood induction. A series of experiments conducted by Dunn and Schweitzer (2005) also found a positive impact of happiness on trust. In one of these studies, participants were instructed to write about things in their life that make them happy, angry or sad depending on their experimental group.
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membership. Next, participants were asked to report their trust in a coworker. The study found that participants in the happy induction group reported significantly higher levels of trust than those in the sad and angry groups. Also, participants who received the anger induction were significantly less trusting of their coworker when compared to the other two groups. The connection between trust and affect is not surprising. For many years, attitude researchers have recognized that attitudes are comprised of both cognitive and affective components (Ajzen & Fishbein, 1974).

Despite the plethora of models attempting to predict trust (see Table 1), researchers often fail to explicitly include an affective component in their models. For example, Schoorman et al., (2007) admit that the ABI model, originally developed by Mayer et al. (1995), focuses only on cognitive predictors of trust. However, these researchers believe affect influences trust indirectly by influencing the antecedents of trust identified in their model. Lee and See (2004) agree that both affective and cognitive processes influence trust. However, these researchers suggest the affective system actually has a strong, direct impact on trust and it is the cognitive system that impacts trust indirectly through its association with the affective system (see Figure 1). According to Lee and See (2004), trust may be influenced by Analytic and Analogic (i.e. heuristic based) systems but ‘... ultimately trust is an affective response’ (p. 61).
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Figure 1. Model of the underlying processes influencing trust from Lee and See (2004).

Several recent studies have taken steps to expand Mayer et al.’s (1995) ABI model to include affective predictors of trust. Nikolova, Mollering and Reihlen (2015) conducted a qualitative analysis of trust in client-consultant relationships. Like Mayer et al. (1995), these researchers identified Ability, Benevolence and Integrity as important predictors of trust. However, Nikolova et al. (2015) also identified the importance of establishing an emotional connection in trust building. Mcleary and Cruise (2015) have also taken steps to expand the theoretical framework of the ABI model by adding the emotional variables to the model. These researchers investigated predictors of “organizational trust” in a large sample of Jamaican employees to see if the addition of affective components in a model of trust would improve trust prediction. The extent to which employees believe they are respected by their organization and the extent to which employees believe they are fairly compensated were identified as affective variables by these researchers. Tan and Chee (2005) identified that respect and fairness reflect the emotional element of the personal relationship between coworkers compared to one’s perception of a coworker’s ability, integrity and benevolence. McLeary and Cruise (2015)
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identified respect and fairness as affective predictors and included these antecedents in their model along with the cognitive predictors that comprise the ABI model. The addition of respect and fairness accounted for unique variance in organizational trust after accounting for the ABI model and trust propensity.

The affective component of an attitude includes both immediate evaluation and emotional response. According to Giner-Sorolla (1999), the immediate evaluation is expressed as simple preference of like or dislike for the attitude object and is generated automatically with little cognitive effort. After the immediate evaluation takes place, a more deliberative, cognitively effortful process is involved that generates discrete emotions. Giner-Sorolla (1999) concludes that the immediate evaluation often informs the emotional response, but not in all circumstances. In some situations the emotions experienced during deliberation conflict with the immediate evaluation.

Measuring the Affective Component

In order to get a more complete understanding of affect’s influence on trust, researchers must be able to effectively measure the affective component of an attitude. Attitude research may provide some insight. Traditional techniques for measuring the affective component of attitudes focused on a variety of self-report measures. Peters and Slovic (2007) examined several of these measures for reliability and predictability of behavioral intentions. The measures were organized according to three characteristics, bipolar or unipolar, measure of valance or discrete emotions, holistic or organization by thoughts and images. Peters and Slovic (2007) found that holistic measures were more reliable and predictive than image based measures. However, there were no differences in reliability and predictability between bipolar verses unipolar and valance verses discrete emotions.
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There is some debate over whether or not self-report measures capture all of the variance associated with the affective attitude component. Giner-Sorolla (1999) argues that self-report measures capture only the deliberative portion of affect. However, Slovic, Finucane, Peters & MacGregor (2007) contend that some self-report measures, such as those that are recognition-based, are similar to implicit memory tasks and therefore may capture some of the immediate evaluation component. Although recognition-based self-report measures may capture some of the immediate evaluation component, it is difficult to assess how much of this component is captured with self-report measures. In addition, it is challenging to tease apart the separate influences of immediate evaluation and deliberation on self-report measures of affect.

Dual Process Theories

The immediate and deliberative aspects of an affective attitude described by Giner-Sorolla (1999) are consistent with the two types of processes identified in dual process theories. Dual process theories suggest that there are two distinct processes that influence behavior. One process is a reflective reasoning process known as Type 2. This process is often slow and dependent on one’s cognitive ability (Evans & Stanovich, 2013; Kahnamen, 2011), and may be responsible for shaping the deliberative aspects of an affective attitude. For example, Peters et al. (2006) found that participants with a greater ability to comprehend probabilities derived more precise affective meaning from numbers and numerical comparisons such as the attractiveness of a particular bet. In this study feelings were generated by the deliberate, Type 2 process of determining the meaning of information (Peters & Slovic, 2007). In addition this process is likely at work in shaping the cognitive predictors of trust. As Shoorman et al. (2007) suggest, the development of trust involves thoughtful consideration of an individual’s trustworthiness.
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The more immediate component of an affective attitude may be generated by Type 1 process. Type 1 is an automatic process that often occurs below conscious awareness and relies on implicit knowledge and associative learning to influence behavior (Epstein, 1994; Evans, 2008; Evans & Stanovich, 2013; Stanovich & West, 2000). The emotional component of trust may be at least in part governed by this information processing Type. Some researchers believe the Type 1 process is ‘intimately associated with affect’ (Stanovich and West, 2000, p.671).

According to Bechara, Damasio and Damisio (2003), affect plays a role in the Type 1 process by providing an anticipatory response in reaction to familiar stimuli. Research on decision-making by brain damaged patients highlights the role of emotion in the Type 1 process. Patients with damage to the ventromedial prefrontal cortex (VMPC) show impaired decision-making and impaired ability to express emotions despite normal intellectual functioning. A study by Bechara, Damasio, Tranel and Damisio (1997) compared the decision-making performance of these patients in a classic gambling task compared to a control group. Participants had to choose between decks of cards that yield high immediate gain and high future loss and decks that result in low immediate gain and low future loss. Choosing the decks that yielded the low immediate gain and low future loss led to the best decisions (i.e., advantageous decks). In addition to performance, skin conductance response (SCR) was measured before and after each choice as an index of emotional response. With experience, the control group learned to prefer the advantageous decks and subsequent decision-making performance improved. Patients with VM prefrontal cortex never developed this preference and their decision making performance remained consistently poor, despite experience. The SCR data revealed that both groups experienced appropriate SCR activation in response to positive and negative outcomes. With experience, the control group also began to experience SCR activation during the
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deliberation process. Patients with VMPC damage never developed this anticipatory response. The researchers concluded the healthy individuals experienced an automatic emotional reaction to the risky decks based on learned associations between these decks and negative consequences. This reaction which can be described as a Type 1 process (Stanovich & West, 2000), encouraged healthy individuals to avoid these decks.

Based on this initial study and subsequent neuro-imaging research (Bechara et al., 2003), Bechara and Damasio (2005) developed the Somatic Marker Hypothesis. This hypothesis describes how emotion plays a role in the Type 1 process by providing an anticipatory response in reaction to familiar stimuli. For example, a person that has previously been burned by a pan heated on a stove, may experience a negative emotional response when he or she encounters the same situation in the future (i.e. hot pan on stove). When the individual senses the hot pan, the sensory information activates the early sensory cortices in the thalamus. These cortices in turn activate the amygdala which triggers effector structures such as the hypothalamus and brainstem nuclei. These effector structures then send signals to the body to change physiology in preparation for fight or flight. Signals are then sent back to the brainstem nuclei and Insula/SII SI cortices which produce negative feelings toward the stimuli (Bechara & Damasio, 2005). These feelings serve as an anticipatory response to warn against touching the hot pan.

Interestingly, this anticipatory response can also generalize to other similar stimuli, such as a pot of boiling water. An individual, perhaps a small child, may have no previous exposure to boiling water, but the stimulus is similar to the hot pan. According to the Somatic Marker Hypothesis this similar stimulus is referred to as a secondary inducer because it is not the primary stimulus (i.e., hot pan) that induces an emotional reaction but is comparable enough to produce a similar, weaker reaction (Bechara & Damasio, 2005). The neural pathways that
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generate this anticipatory response are slightly different because they are typically not strong enough to produce physiological reactions in the body.

Like primary inducers, sensory information from the boiling water activates early sensory cortices in the thalamus. Signals are then sent to the Ventromedial Prefrontal Cortex (VMPC) and Amygdala. Bypassing the body, these regions in turn send signals directly to the brainstem and insula to produce the anticipatory response. The VMPC is only active for decision-making involving secondary inducers. It appears that this region of the brain functions specifically to associate stimuli similar to primary inducers and couple them with emotions to guide decision-making.

This research suggests that emotions involved in the Type 1 process guide decision-making by signaling potential consequences of various options. For example, choosing an investment opportunity that results in a catastrophic loss of money will produce a negative emotional response. The Type 1 process will generate a similar emotional response in the future when faced with similar investment opportunities, serving as a caution against these opportunities. The negative emotional response guides the decision-making process by helping the individual anticipate the outcome of investment options. Without this mechanism individuals engage in prolonged cost benefit analysis that often results in inadequate decisions. The researchers concluded that individuals experience an automatic emotional reaction based on learned associations between stimuli and positive or negative consequences (Bechara & Damasio, 2005). Some researchers refer to this ability to use emotion-based knowledge (i.e. somatic markers) to inform decision-making as emotion-based learning (Turnbull, Berry & Bowman, 2003). According Giner-Sorolla (1999), this emotional reaction based on conditioning
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is an attitude’s immediate affective component. Therefore, the Type 1 process may be at least partially responsible for affect’s role in trust development.

Slovic et al. (2007) refers to this emotional influence on decision making as the affect heuristic. Individuals guided by the affect heuristic base their decisions and choices on a basic emotional response of either like or hate (Kahneman, 2011; Slovic et al. 2007). Research suggests that in some contexts the affect heuristic may not be a useful guide for decision-making. For example, the strength of the affective response to a decision can be changed by changing the context of the decision under consideration (Slovic et al., 2002). In an unpublished study by Slovic (cited in Slovic et al. 2003) group A was asked to rate their strength of support for an airport security measure that would save 98% of 150 people at risk compared to group B who provided ratings for security measures that would save 150 people. Participants in group A provided significantly higher strength of support ratings compared participants in group B. The researchers used the affect heuristic to explain the findings. Both descriptions generated positive affect (i.e. the participants in both groups felt good about the security measures). However, with no given frame of reference the value 150 may not be seen as good when compared to 98% of 150 which is on an evaluable scale. Group A experienced a stronger affective response because the ‘goodness’ of this description was easy to evaluate. This finding is also supported by the somatic marker hypothesis which states that the strength of affective response is dependent on how abstract the consequences are perceived to be (Bechara & Damasio, 2005). In this study 150 people is a more abstract number when it is not paired with a reference point; perhaps this forces the decision maker to compare 150 people to the possible millions of people that rely on air travel. When the reference 98% is added the consequences become more concrete and the resulting affective response is stronger because 98% is almost %100 percent of the population at
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risk. These findings suggest that the affect heuristic may be less reliable for abstract problems that do not allow the decision-maker to anticipate tangible consequences.

Some proponents of the dual process model believe Type 1 is the default process. This automatic process will affect an individual’s attitude formation and subsequent behavior unless the individual overrides the Type 1 process and replaces it with Type 2 reflective reasoning (Evans & Stanovich, 2013). Given this system’s powerful influence, it is important to effectively measure Type 1’s impact on trust.

Implicit Attitude

One way to capture Type 1’s impact on the affective component of trust may be to employ implicit measures. According to Giner-Sorolla (1999), an implicit attitude measure may be less contaminated by deliberation, making it a more valid measure of the immediate aspect of an affective attitude. The ability of implicit attitude measures to capture immediate affect was also emphasized by Gawronski and Bodenhausen (2006). These researchers referred to implicit attitudes as ‘automatic affective reactions’ (p. 693) triggered by associations built over time.

It is believed that implicit attitudes are not formed by reason or logic (Gawronski & Bodenhausen, 2006). Therefore, traditional measurement approaches such as self-report may not be accurate or applicable. Traditional measures may capture some variance associated with implicit attitude, but may be contaminated by more rational thinking. In fact, in one study investigating the influence of implicit and explicit attitude on trust in an automated system the researchers found no significant correlation between implicit and explicit attitudes (Merritt, Heimbaugh, Lachapell & Lee, 2013). Implicit attitude measures may be one way to overcome this measurement challenge. These measures rely on an automatic process known as response activation to uncover both the strength and direction (i.e. positive or negative valiance) of the
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implicit attitude (De Houwer, 2001; Olsen & Fazio, 2001; see De Houwer, Teige-Mocigemba, Spruyt & Moors, 2009 for review). Implicit attitude measures have been used to assess the experiential system’s influence on a variety of perceptions and behaviors including perceptions of hazards (Siegrist, Keller & Cousin, 2006) consumer evaluations (Summerville, Hsieh & Harrington, 2010) and exercise intensity (Forrest et al., 2016).

Some evidence suggests implicit attitude may predict trust. Merritt et al. (2013) measured individual differences in implicit attitude toward automation using a version of the implicit association test (IAT). The IAT is one of the most widely used techniques for assessing implicit attitudes (Nosek, Greenwald & Banaji, 2005) and is described in detail in the Methods section below. Merritt et al. (2013) found implicit attitude toward automation predicted trust in an automated tool during periods of uncertainty. Stanley, Sokol-Hessner, Banaji and Phelps (2011) also used a version of the IAT to measure implicit racial attitudes. These researchers found implicit racial attitudes significantly predicted explicit evaluations of a person’s trustworthiness as well as reliance on that person during an economic decision game. Perhaps one’s implicit attitude toward a person or machine is an affective component of their trust in that person or machine. If this relationship exists, implicit attitude should both predict trust and respond to changes in teammate trustworthiness in a pattern similar to trust. Building an implicit attitude that appropriately matches the state of the world may allow individuals to harness the full power of their experiential system. For example, if a person develops a strong negative implicit attitude toward someone who intends them harm, they can engage in faster and more efficient trust calibration.

Laboratory studies have shown that implicit attitudes can be created by pairing neutral stimuli with positive or negative stimuli; a process known as evaluative conditioning (Baeyens,
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Field & De Houwer, 2005). For example, Olsen and Fazio (2001) paired positive and negative words with pictures of cartoon characters to generate an implicit attitude toward the previously neutral cartoon pictures. Mitchell, Anderson and Lovibond (2003) found they could generate an implicit attitude to meaningless nonwords by associating them with positive or negative meanings. These studies effectively demonstrate that implicit attitudes can be created using controlled experimentation. One limitation of these evaluative conditioning tasks is that they lack ecological validity because they pair neutral and unconditioned stimuli that would likely never be associated in the real world. Another limitation specific to the investigation of trust, is that these evaluative conditioning tasks did not use stimuli, such as people or automated systems that could foster a trust relationship.

Given the potential benefits afforded by the appropriate use of the Type 1 process, it is important to investigate other factors, in addition to trust, that may be associated with implicit attitude development. Implicit attitude’s close association with emotion (DeSteno, Dasgupta, Bartlett & Cajdric, 2004; Gawronski & Bodenhausen, 2006) suggests emotional intelligence (EI) may be a predictor of implicit attitude development.

**Emotional Intelligence**

EI is a challenging construct to define because its association with other constructs tends to vary based on the particular measure of EI. For example, Chapman and Hayslip (2005) tested the incremental validity of the Self Report Inventory of Emotional Intelligence (SSRI) on predicting various adjustment criteria among college students. In addition to EI, these researchers measured personality using the NEO FFI and both crystallized and fluid intelligence on an array of adjustment criteria including self reported loneliness, adjustment stress (both academic and psychosocial) and GPA. The researchers found that the SSRI correlated much
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more strongly with dimensions of personality such as extraversion ($r = .53$) and agreeableness ($r = .41$) compared to crystallized ($r = .03$) or fluid intelligence ($r = .10$). In contrast Roberts, Zeidner and Matthews (2001) conducted a comprehensive assessment of the convergent and divergent validity of an ability measure of emotional intelligence known as the Multi Factor Emotional Intelligence Scale (MEIS). These researchers found this measure of EI was moderately correlated with general intelligence ($r = .32$) and less so with the big five personality dimensions ($r < .30$).

Various EI measures also sometimes lack convergence in their predictive validity. As an example, in Schutte et al.’s (1998) validation of the SSRI, they found a significant correlation between the SSRI and grade point average ($r = .32$). However, Newsome, Day and Catano’s (2000) study did not find an association between EI and grade point average ($r = .01$) in their validation of the Emotional Quotient Inventory (EQ-i).

This lack of convergent and divergent validity across multiple EI measures has led some psychologists to conclude that different EI measures may be measuring different constructs. Perhaps the most popular distinction is between EI ability measured by objective tests such as the MEIS and the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) (Roberts et al., 2001; Salovey, Mayer, Caruso & Lopes, 2003), and trait EI which is assessed through self-report measures such as the SSRI and EQ-I (Saklofske, Austin & Minski, 2003).

When considering these two different models, my view is consistent with other leading EI researchers (Mayer, Roberts & Barsade, 2008) who believe EI should be conceptualized as intelligence in that EI measures should focus on objective measures of abilities. One of the most widely used measure of ability EI is the MSCEIT (MacCann & Roberts, 2008). The latest version of the MSCEIT consists of eight ability tests of EI including a test to measure one’s
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ability to correctly identify emotions in pictures of faces and a test that asks participants to
correctly rate the effectiveness of various emotion management strategies in a given scenario.
The MSCEIT is often scored by comparing participants’ responses to those of experts (Zeidner,
Matthews & Roberts, 2009).

Research on the psychometric properties of ability EI provides further support for EI as a
type of intelligence. One study found that the MSCEIT met the psychometric criteria to be
considered a group factor of intelligence similar to more traditional cognitive abilities such as
fluid reasoning, visual processing and quantitative knowledge (MacCann, Joseph, Newman &
Roberts, 2014). A third study suggests ability EI is a better predictor of emotional decision-
making performance when compared to trait EI and cognitive intelligence (Alkozei, Schwab &
Killgore, 2016). Participant’s Ability EI was measured using the Mayer-Salovey-Caruso
Emotional Intelligence Test (MSCEIT) before performing a simulated terrorist screening task.
Participants were instructed to select people for further interrogation based on their pictures. The
researchers found a significant positive correlation between high ability emotional intelligence
and the ability to detain individuals based on aggressive facial expressions (Alkozei et al., 2016).
Another study employing the Audiovisual Test of Emotional Intelligence found that this ability
measure of EI predicted disordered eating (based on self-report measures) after controlling for
gender and personality (Zysberg, 2014). Participants scoring higher in ability EI were less likely
to report disordered eating. The self-report measure of EI used in this study was not associated
with disordered eating (Zysberg, 2014).

The Four-Branch Model is a predominant theoretical model that describes the structure
and underlying abilities that comprise EI. According to this model, EI consists of four sets of
abilities called branches that build on each other and increase in cognitive complexity from the
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first to fourth branch (Mayer et al., 2008). The first branch of the model is the perception and expression of emotions. The second branch is the ability to integrate emotions into thought in order to enhance cognition. The third branch is the understanding of the relationship between emotions and the ability to transition between emotions as circumstances change. Although this branch is included in the model, it does not appear to express itself in the data. Both structural equation modeling and factor analytic techniques support the exclusion of the emotion facilitation branch (MacCann et al., 2014). The last branch in the model is emotion management. As described in detail in the Emotion Management section below, this fourth branch of emotional intelligence is the most cognitively complex ability and success is contingent on one’s effectiveness with the other branches of EI (Mayer, Salovey, Caruso & Sitarenios, 2003). Some EI ability measures such as The Situational Test of Emotional Understanding and The Situational Test of Emotion Management (STEM; MacCann & Roberts, 2008) were developed to specifically measure one branch of the four branch model. Other instruments, such as the MSCEIT consist of a battery of ability measures designed to assess all four branches of the model.

Emotion Management

The developers of the four branch model stress that in most situations, part of effective emotion management involves allowing oneself to experience both positive and negative emotions even if these emotions are not outwardly expressed (Mayer, Salovey & Caruso, 2000). Consistent with Mayer et al. (2000), other researchers assert that emotion management should include processes that increase, decrease and maintain the expression of both negative and positive emotions (Gross, 1998; Koole, 2010). In other words, emotion management is not always need-oriented (Koole, 2010). Need-oriented emotion management is directed by
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hedonically rewarding states; the need to experience low levels of negative affect and high levels of positive affect. According to Koole (2010) emotion management can also be goal-oriented. In goal-oriented emotion management, emotions are regulated to facilitate goal attainment which may be inconsistent with hedonic reward. This type of emotion management can be influenced by implicit or explicit beliefs about how a particular emotional state assists the individual in accomplishing his or her goal (Tamir, Chiu & Gross, 2007).

Gross (1998) defines emotion management as “the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions” (p. 275). Emotion management can control an emotional experience by regulating both the intensity and duration of an emotion (Gross & Thompson, 2007). Koole (2010) argues that, in addition to discrete emotion, emotion management should include the regulation of mood, stress and affect because all of these constructs have core affect. Core affect is the basic state of feeling good or bad as well as energized or enervated and the regulation of these different emotion constructs all involve changing core affect (Koole, 2010; Russel, 2003).

In addition, researchers suggest emotion management can be both automatic and controlled (Etkin, Buchel & Gross, 2015; Gross, 1998). Consistent with this assertion, Mayer and Salvoy (1995) suggest that some emotion management strategies may begin as conscious, controlled processes but become automatic with practice. Gyurak, Gross and Etkin (2011) developed a dual-process framework for emotion management. In this framework, explicit emotion management requires effort and monitoring. Implicit emotion management can occur without monitoring or effort and is initiated automatically. It is important to note that Gyurak et al. (2011) stress that the categories have porous boundaries. For example, the extent to which emotion management is explicit or implicit can vary across time and situations.
One example of an emotion management strategy that can be either explicit or implicit is reappraisal. Reappraisal has been traditionally identified as a conscious and deliberate form of emotion management. This type of emotion management involves cognitively altering the meaning of an event to change its emotional impact (Gross, 1998). Butler et al. (2003) found that cognitive reappraisal was a more effective strategy for hiding emotions during an upsetting discussion when compared to emotional suppression. Suppression resulted in significantly more communication disruptions when compared to reappraisal. The conscious appraisal of events has been categorized as a Type 2 process (Slovic, Finucane, Peters & MacGregor, 2004). However, it does appear that structured training can facilitate the automatic control of reappraisal (Christou-Champi, Farrow & Webb, 2015). Christou-Champi et al. (2015) had participants complete 150 sessions of structured practice reappraising negatively valenced images. After these sessions participants were able to spontaneously regulate their negative emotions using reappraisal. Mauss, Evers, Wilhelm and Gross (2006) provide further evidence for the existence of implicit emotion regulation. First, the researchers used an IAT to measure participant’s implicit attitude toward emotion regulation. Next, participants performed a tedious counting task coupled with negative performance evaluation administered by the experimenter. The experience was designed to induce anger and the researchers found that individual differences in positive implicit attitude toward emotion management predicted less anger measured via self-report. Cardiovascular measures also revealed more adaptive challenge response to negative emotion for individuals with a positive implicit attitude toward emotion regulation. Specially, individuals with positive implicit attitude toward emotion management experienced greater cardiac activation coupled with lower vascular response. In addition, these researchers found that the IAT was actually negatively correlated with self-report measures of emotional control.
suggesting that the IAT is measuring an automatic process separate from deliberate processing (Mauss et al. 2006).

The ability to use affect to inform trust may in part be influenced by an individual’s emotion management ability. Using affect to influence trust is an emotion-based learning process that involves using the affect experienced through previous interaction with a person or object to create affective signals to inform trust. The ability to manage this activity is consistent with Gross’s (1998) definition of emotion management.

At times, affect’s influence on trust may at least be partially controlled by explicit Type 2 processing. This influence can be conceptualized as the deliberative component’s contribution to trust development (Giner-Sorolla, 1999). However, automatic evaluation governed by Type 1 processing may also control emotion-based learning. Bechara and Damasio (2005) suggests that emotion-based learning can be largely automatic. Considering emotions can be managed both automatically and explicitly through controlled processing (Butler et al. 2003; Mauss et al. 2006), it is possible that emotion management ability may predict both the immediate evaluations (i.e. Type 1 process) as well as the deliberate emotions (i.e. Type 2 process) influencing trust. An individual with effective emotion management ability may be able to more flexibly and efficiently use emotional experiences to form an affective experience that will subsequently influence trust.

Current Study

In the current study, participants worked with two remote virtual teammates on a team decision-making task to earn play money over the course of two sessions. In the first session teammate behavior was manipulated to create a trust violation. One teammate exploited the participant by taking more than his or her share of the money during most of the trials during this
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session. The other teammate remained fair throughout session one. Consistent with Grover et al. (2014), teammate exploitation can be characterized as an abuse of power that violates trust. The researcher measured the impact of teammate exploitation on the participant’s trust, perceived Ability, Benevolence and Integrity of the teammate as well as their affective attitude toward the teammate. Affective attitude was measured both explicitly and implicitly.

One goal of the current study was to expand the ABI model to include an affect dimension. This goal was explicitly identified by Schoorman et al. (2007) as an important direction for future development of the ABI model. Researchers have already begun to explore affect’s relationship with the existing ABI model and its role in trust development (McLeary & Cruise, 2015; Nikovlova et al. 2015). However, to the best of my knowledge no studies have investigated how an affective attitude generated by Type 1 process in the wake of a trust violation might be associated with trust. This study adds a unique theoretical contribution by exploring the possibility that the affective antecedent of trust may include both a deliberate (Type 2) and automatic (Type 1) components (see Figure 2).
Figure 2. Proposed expansion of ABI model to include an affective dimension. Type 1 and Type 2 represent the two processes that generate this dimension and predict trust.

Hypothesis 1. It is hypothesized that both the explicit and implicit expression of an affective attitude toward the selfish teammate following a trust violation would significantly predict trust in this teammate, after controlling for the cognitive components of trust identified in the ABI model. Specifically, negative implicit and negative explicit affective attitude in the selfish teammate relative to the fair teammate would be associated with low explicit trust in the selfish teammate.

Another goal of the current research was to demonstrate that the strength of the affective dimension of trust was associated with an individual’s emotion management ability (see Figure 2). The ability to control affect and emotional intensity has been identified as a component of emotion management (Gross, 1998; Gross & Thompson, 2007; Koole, 2010). Therefore, the ability to use emotional experiences to strengthen the affective component of trust should be
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associated with one’s ability to manage emotions. Specifically, individuals with high emotion management ability may be able to efficiently develop a negative affective attitude toward a selfish teammate which in turn can be used to develop strong distrust. This ability should be associated with both implicit and explicit affective attitudes (Gyurak et al., 2011).

**Hypothesis 2.** The researcher hypothesized that Emotion Management Ability would significantly predict the relative difference in implicit and explicit affective attitude between the fair and selfish teammate after controlling for fluid intelligence. Those with strong emotion management ability would show significantly more positive implicit and explicit attitude for the fair teammate relative to the selfish teammate.

**Alternative to H2.** It can be argued that individuals high in Emotional Management Ability might have been inclined to cognitively reappraise the situation to avoid expressing negative affect toward the selfish teammate. As a result, individuals higher in emotion management ability could develop weaker affective attitudes toward their selfish teammates. Reappraisal is a popular emotion management technique used by individuals high in this ability (MacCann & Roberts, 2008). Reappraisal may have been particularly appealing in this laboratory setting where there were no real world negative consequences to the teammate’s selfish behavior. It may have been fairly easy for participants in this environment to reduce their negative affect through reappraisal.

A key question when considering this alternative hypothesis is whether or not reappraisal would dampen the affective attitude component. It seems possible that reappraisal could reduce general free-floating negative affect, but still preserve the affective dimension of trust in their teammates. For example, a participant might not have been upset by the selfish teammate’s actions due to reappraisal, but still strongly disliked him or her.

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Theoretically, this hypothesis runs counter to the idea of emotion management being a form of intelligence. One could argue that a person who fails to develop a negative affective attitude toward someone who is exploiting them is demonstrating low emotional intelligence. This individual would be showing a limited ability to engage in emotion-based learning (Turnbull et al., 2003).

**Additional Topics for Exploration.** In Session Two of this study, participants were separated into two groups. In group one, the previously selfish teammate became fair and in group two the previously fair teammate became selfish. This second session allowed the researcher to explore how changes in behavior impact trust and trust related variables.

First, implicit attitude as measured by the IAT is a relative measure. In this study implicit attitude was a measure of implicit bias toward the fair teammate relative to the unfair teammate. In session one, this relative measure prevented researchers from knowing which factor is responsible for a change in implicit attitude. The unfair teammate’s behavior could be solely responsible for shifting participant implicit attitude. A second possibility is that the fair teammate’s behavior could be responsible for any change in implicit attitude. Lastly, it could be a combination of teammate behaviors that led to a change. Session two keeps the behavior of one teammate constant while changing the behavior of the second teammate; from fair to unfair or from unfair to fair. In this session the researcher could explore which type of behavior had a stronger impact on implicit attitude.

Session two also allowed the researcher to explore the selfish teammate’s attempt at trust repair after exploiting the participant. According to Grover et al. (2014), exploitation resulted in a loss of trust that could not be repaired. However, King-Casas et al. (2008) laboratory study
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investigating the effectiveness of trust repair revealed findings inconsistent with Grover et al.’s (2014) qualitative analysis.

Method

Participants

Students (N = 108; 55 men and 53 women) were recruited from the University of Cincinnati’s Introductory Psychology pool. The age of participants ranged from 18 to 36. All participants were treated ethically according to standards established by the American Psychological Association (APA, 2002). All participants had normal (20/20) or corrected-to-normal vision; spoke English as a first language; did not take psychoactive medication and/or were not receiving treatment for anxiety, mood disorder, stress, epilepsy or psychosis during the time of participation. Individuals who did not meet these criteria were excluded from the study. Upon arrival, participants were randomly assigned to either Condition One or Condition Two in Session Two. In Condition One the unfair teammate from Session One became fair. In Condition Two the fair teammate from Session One became unfair.

Materials

Financial decision-making conditioning task. The evaluative conditioning was conducted using a remote team financial decision-making task programmed in e-prime and presented on a windows PC. The team consisted of the participant and the virtual teammate. Participants were told that this virtual teammate was another participant in the study, but the teammate was actually part of the computer program. Each teammate was given $5 of virtual money to invest in stocks. The participant was presented with 24 trials where they were tasked with choosing the best stock option from 5 choices. Both the probability of success and the monetary return on investment were provided for each option. For example, one stock option
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might have a 75% chance of success with a $10 return on investment while another might have an 8% chance of success with a $100 return on investment. At the beginning of each trial the participant had the opportunity to take as much time as needed to review all five stock options. Once the participant saw all five options, they could progress to the decision making process. The teammate made the first decision by selecting two of the five options in order to narrow the five options to the best two. The participant then could take as much time as needed to choose which stock he or she thought was best from the two remaining options. The participant believes that his or her decision would determine the team’s success. However, in reality the team earned money on 22 out of 24 rounds, regardless of which option the teammate chooses.

Both the participant and teammate each have individual financial goals for the task. They are expected to each earn $700 across the 24 rounds of investment. Therefore, the return on investment for each correct choice must be divided between the participant and teammate. The teammate decided how much money to allocate to the participant and how much to keep. This component of the task is consistent with the dictator game originally developed by Kahneman, Knetsch, and Thaler (1986) to investigate the role of fairness in economic exchanges.

Following each trial, the participant was presented with feedback relating to whether or not they choose the best option, how much they earned for that round as a team and how much of the earning their teammate decided to give to them (see Figure 3). Both the team’s earnings accumulate across trials with every correct choice, but the amount allotted to the participant is determined by the teammate. In the fair teammate condition teammates split the earnings 50/50 with the participant. In the unfair condition teammates took most of the money during the session. A picture of the teammate was displayed throughout both conditions. The constant
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presence of the teammate’s picture was designed to strengthen the association between the teammate (i.e. neutral stimulus) and the money allocation decisions (i.e. unconditioned stimuli).

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**Figure 3.** Performance feedback from a trial with an unfair teammate.

To further illustrate the conditioning task, table 3 reflects the options presented in round one of the unfair condition. The participants were presented with only the percent chance of success and return on investment for all five options. They had no other information to base their decision on. Before participants made their selection, their teammate (i.e. the computer program) narrowed down the five options to Option A and Option E. The participant must then decide between Option A and Option E. Regardless of which option the participant chooses he or she was informed by the program that he or she chose the correct option and the team received the return on investment for the selected stock; either $200 for option A or $70 for option E.
Next, the teammate ‘decided’ to give half of the return on investment to the participant; either $100 or $35 depending on the total sum earned (see Table 3).

Table 3

*Options Presented in Round 1 of the Unfair Condition*

<table>
<thead>
<tr>
<th>Option</th>
<th>Chance of Success</th>
<th>Return on Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option A</td>
<td>15%</td>
<td>$200</td>
</tr>
<tr>
<td>Option B</td>
<td>80%</td>
<td>$20</td>
</tr>
<tr>
<td>Option C</td>
<td>30%</td>
<td>$10</td>
</tr>
<tr>
<td>Option D</td>
<td>50%</td>
<td>$100</td>
</tr>
<tr>
<td>Option E</td>
<td>70%</td>
<td>$70</td>
</tr>
</tbody>
</table>

**Training materials.** Participants were provided with several power point slides explaining the expected value formula and how it could be used to make stock selection decisions. Expected value is a mathematical formula that factors in both the likelihood of the outcome and the monetary loss or gain associated with the outcome. It is computed by multiplying these two variables. In financial decision-making, the option with the highest expected value can be considered the optimal or most ‘rational’ option (Newell, Lagnado & Shanks, 2007). Expected value can aid participants in their stock selection decisions. For example, participants presented with the options in Table 3 could have used the expected value formula to inform them that option E was the optimal choice because it has the highest expected value. In addition to the tutorial, a short version of the financial-decision making task was developed to familiarize participants with the task. In this practice session, participants
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completed three rounds of investment and were told they were working with the computer instead of an actual teammate.

**Implicit Association Test.** Implicit attitudes were assessed using an adapted version of the IAT developed by Meade (2009) using Visual Basic Express 2008 and administered using a windows PC. For this study the IAT was used to measure the change in implicit attitude toward an unfair teammate relative to a fair teammate. Participants were presented with pictures of their two teammates in the center of the computer screen and pressed the ‘e’ or the ‘i’ computer key to match each picture with the teammate’s name at the top of the screen. The IAT also presented words that had either a positive or negative valance and used the same keys to indicate if the words belonged with labels ‘Positive Words’ or ‘Negative Words’ presented at the top of the screen. Four pictures of each teammate were used along with four words with positive valiance and four words with negative valance. The IAT displayed the positive words ‘Good’, ‘Pleasant’, ‘Likable’ and ‘Enjoyable’ and the negative words ‘Dislikable’, ‘Bad’ ‘Unpleasant’ and ‘Displeasing’.

The IAT required participants to complete a series of trial blocks for each condition. For the Congruent Blocks, Positive Words were assigned to the same key as the Fair Teammate and Negative words were assigned to the same key as the Unfair Teammate. For the Incongruent Condition the assignment was switched such that Positive Words were assigned to the same key as the Unfair Teammate and Negative words were assigned to the same key as the Fair Teammate. Tables 4 and 5 present the Trial Block sequence for both condition orders.
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Table 4

*Trial Blocks for Congruent/Incongruent Condition Order*

<table>
<thead>
<tr>
<th>Block</th>
<th>No. of Trials</th>
<th>Item Assignment to Key ‘e’</th>
<th>Item Assignment to Key ‘I’</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Congruent Blocks</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (Practice)</td>
<td>16</td>
<td>Unfair Teammate Pictures</td>
<td>Fair Teammate Pictures</td>
</tr>
<tr>
<td>2 (Practice)</td>
<td>16</td>
<td>Negative Words</td>
<td>Positive Words</td>
</tr>
<tr>
<td>3 (Test)</td>
<td>50</td>
<td>Unfair Teammate +</td>
<td>Fair Teammate +</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Negative Words</td>
<td>Positive Words</td>
</tr>
<tr>
<td><strong>Incongruent Blocks</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 (Practice)</td>
<td>16</td>
<td>Fair Teammate Pictures</td>
<td>Unfair Teammate Pictures</td>
</tr>
<tr>
<td>5 (Test)</td>
<td>50</td>
<td>Fair Teammate +</td>
<td>Unfair Teammate +</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Negative Words</td>
<td>Positive Words</td>
</tr>
</tbody>
</table>
Table 5

*Trial Blocks for Incongruent/Congruent Condition Order*

<table>
<thead>
<tr>
<th>Block</th>
<th>No. of Trials</th>
<th>Item Assignment to Key ‘e’</th>
<th>Item Assignment to Key ‘I’</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Incongruent Blocks</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (Practice)</td>
<td>16</td>
<td>Fair Teammate Pictures</td>
<td>Unfair Teammate Pictures</td>
</tr>
<tr>
<td>2 (Practice)</td>
<td>16</td>
<td>Negative Words</td>
<td>Positive Words</td>
</tr>
<tr>
<td>3 (Test)</td>
<td>50</td>
<td>Fair Teammate +</td>
<td>Unfair Teammate +</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Negative Words</td>
<td>Positive Words</td>
</tr>
<tr>
<td><strong>Congruent Blocks</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 (Practice)</td>
<td>16</td>
<td>Unfair Teammate Pictures</td>
<td>Fair Teammate Pictures</td>
</tr>
<tr>
<td>5 (Test)</td>
<td>50</td>
<td>Unfair Teammate +</td>
<td>Fair Teammate +</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Negative Words</td>
<td>Positive Words</td>
</tr>
</tbody>
</table>

Trial blocks 1 and 2 were practice blocks designed to familiarize the participant with key assignment. Block 3 was the first Test block. In this block both teammate photos and words were displayed and assigned to the same keys as in the first two blocks. Block 4 reversed Teammate Picture assignment to Key ‘e’ and Key ‘i’. For example, if the Unfair Teammate photos were assigned to key ‘e’ in blocks 1 through 3, they were now assigned to key ‘i’. Block 4 was a practice block to get participants accustomed to the reversed assignment. Block 5 was the second test block. Similar to block 3, in this block both teammate photos and words were displayed and assigned to the same keys as in block 4. The reaction time difference between blocks 3 and 5 served as an indirect measure of association strength between the teammates and positive or negative valence. If reaction time was faster when the teammate was paired with a
Affective Component of Trust

positive valence word than when paired with a negative valence word, it was concluded that the participant’s implicit attitude toward the concept was more positive than negative (Greenwald, McGhee, & Schwartz, 1998).

**Mini-Markers.** Participants completed the Saucier (1994) Mini-markers questionnaire that assesses the 'Big Five' dimensions of personality (see Appendix A). This questionnaire is a reduced set of the 100 items developed by Goldberg’s (1992) Unipolar Big Five Marker. Saucier (1994) computed a factor analysis on all 100 items on the Unipolar Big Five Marker and selected the items in each of the five factors that had the highest loadings compared to loadings on the other factors. The result was an internally consistent reduced set of 40 items with 8 items representing each of the 5 factors. The five factors derived from the Mini-markers correlated highly (.92 to .96) with the factors derived from Goldberg’s (1992) full model set. Mini-marker instructions ask participants to rate a list of 40 adjectives according to how much each word relates to him or her. For example, participants rated the word ‘Talkative’ on a scale from 1(strongly disagree) to 5(strongly agree).

**Picture Rating Task.** Participants were asked to perform a picture rating task. They rated pictures of 10 possible teammates based on their overall first impression of how much they would like to have each teammate as a co-worker. An example can be seen in Appendix B. Ratings were based on a photo of the teammate and the teammate’s name. The photos were taken of undergraduate students with the student’s consent and names were randomly assigned to each photo. Participant ratings were recorded on a scale from -100 (dislike a lot) to + 100 (like a lot). This rating scale was adapted from one described by De Houwer, Baeyens, Vansteenevgen, & Eelen (2000).
Affective Component of Trust

The researcher controlled for gender. Male participants rated pictures of 10 male teammates and female participants rated pictures of 10 female teammates. If the participant recognized one of the pictures, the rating for that picture was excluded from the analysis. Once the ratings were complete the researcher used the ratings to select a teammate that did not carry a preexisting explicit positive or negative bias.

Explicit Affective Attitude. The researcher measured participants’ explicit affective attitude toward each teammate using a measure adapted from De Houwer (2001). The measure was administered three times; at baseline, after working with both teammates in Session One and after working with both teammates in Session Two. This affective attitude measure can be categorized as a holistic bipolar valenced evaluation (Peters et al., 2007). Participants were asked to rate how they feel overall about their teammate making this a holistic measure. Similar to other explicit attitude measures (Summerville et al., 2010), the attitude questionnaire simply asks the question “How much do you like your teammate?” Research suggests that holistic measures of affective attitude are better predictors of behavioral intentions when compared to more indirect image-based measures of affect that rely on free association (Peters et al., 2007). The measure is considered bipolar because the scale’s range is from negative affect to positive affect. The scale consisted of 200 points ranging from –100 (Dislike a lot) to 100 (Like a lot). A rating of zero on this scale reflects a completely neutral attitude. This measure was the first item on the trust measure (see Appendix C). This explicit attitude measure can also be described as valenced because it is measuring general affective preference (i.e. like or dislike) rather than discrete emotions. The holistic bipolar valenced evaluation is a popular approach for measuring the affective component of an attitude (Peters et al., 2007).
Affective Component of Trust

**Economic Offer.** The researcher also administered the Economic Offer measure (Appendix D). The Economic Offer measure was administered three times; at baseline, after working with both teammates in Session One and after working with both teammates in Session Two. This measure assesses trust in terms of a decision about how much money to risk. It is adapted from the Trust Game which has been used as indicator of trust in a variety of studies (Berg et al., 1995; King-Caes et al., 2008; Maccannon, 2014; Stanley et al., 2011). The measure presented a scenario where the participant was given $10 and had to choose how much of the sum to give to the teammate. Any amount given to the teammate was quadrupled and the teammate can then decide how much of the quadrupled sum to return to the participant. In this scenario, the participant had to consider whether or not the teammate would exploit him or her by refusing to return any of the quadrupled sum. If the participant decided to give a relatively small amount of money to the teammate, this decision reflected a lack of trust in the teammate.

**Self-Report Trust.** In addition, the researcher administered a 10-item self-report measure of trust developed by Mayer and Gavin (2005) designed to measure trust in participants’ teammates. The measure was administered three times; at baseline, after working with both teammates in Session One and after working with both teammates in Session Two. This measure includes all of the items except for the first item in the Self-Report Trust questionnaire (see Appendix C). Items were measured on a 5 point Likert-scale with anchors ranging from *Disagree Strongly* to *Agree Strongly*. As an example, participants were asked to rate how much they agreed with the statement, *If I had my way, I wouldn't let this person have any influence over issues that are important to me*. The 10-item trust measure is an extension of the original 4-item measure employed by Mayer and Davis (1999) and Davis, Schoorman, Mayer and Tan (2000). In these studies the 4-item measure had questionable internal consistency. Reported
Affective Component of Trust

alphas were .60 (Mayer & Davis, 1999) and .61 (Davis et al., 2000). Mayer and Gavin (2005) added an additional 6 items to the measure in an attempt to improve its internal consistency. The additional 6 items appear to have improved internal consistency with Cronbach’s alphas ranging from .76 to .83 (Frazier et al., 2014; Little, Klumper, Nelson and Gooty, 2012; Mayer & Gavin’s, 2005).

**Perceived Trustworthiness.** A perceived trustworthiness measure developed by Mayer and Davis (1999) was also employed in this study to measure participants’ perception of teammates’ ability, benevolence and integrity (see Appendix E). The perceived trustworthiness measure was administered three times; at baseline, after working with both teammates in Session One and after working with both teammates in Session Two. This self-report measure consists of 17 items measured on a 5 point Likert-scale with anchors ranging from *Disagree Strongly* to *Agree Strongly*. Of the 17 items, 6 items were designed to measure Perceived Ability. For example, participants were asked how strongly they agreed with the statement, *My teammate is very capable of performing his or her job*. Of the 6 items measuring Perceived Integrity one item asked participants how much they agreed with the statement, *I like my teammate’s values*. Five items on this questionnaire measured Perceived Benevolence. A sample item designed to measure this construct was, *My teammate is very concerned about my welfare*. These factors were distinct in a confirmatory factor analysis (Mayer & Davis, 1999) and previous research for this measure suggests high internal consistency. The Cronbach’s alphas for the Perceived Ability items have ranged from .85 to .91, internal consistency for Perceived Benevolence was found between .87 to .92 and alphas for Perceived Integrity were between .82 to .89 (Davis et al. 2000; Mayer & Davis, 1999; Mayer & Gavin, 2005). Basic demographic information was also collected including age, gender, occupation and major (see Appendix F).
Affective Component of Trust

**Situational Test of Emotional Management – Brief.** Participants completed the Situational Test of Emotional Management – Brief (STEM-B; Allen et al., in Press). This is an 18 item multiple choice measure of Emotion Management Ability based on the original 44 item STEM developed by (MacCann & Roberts, 2008). The STEM-B is a multiple choice, Situation Judgment Test (SJT) that presents descriptions of situations and required the participant to select the best option for handling each situation. The measure was designed to assess one’s emotion regulation strategies. The strategies assessed by the STEM-B include situation selection, situation modification, attentional deployment, cognitive change and response modulation and no strategy (Allen et al., in press).

The STEM-B relies on expert scoring. The options for each item were rated by experts on a 6 point scale from very ineffective to very effective. A weighting was then assigned to each option based on the average expert rating. For example, if the mean expert rating was 4.5 out of 6 for option C of item 1, a participant selecting option C would score a 4.5 on this item. This scoring method is consistent with other EI ability measures (MacCann, Fogerty, Zeidner & Roberts, 2011).

The original 44 item measure was reduced to 18 items using a 3 parameter logistic Item Response Theory (3-PL IRT) (Allen et al., in press; see Appendix G). The 3-PL IRT model was fit to the STEM and items with a negative biserial correlation were removed from the measure. Next, items were removed that had fewer than 75% of experts endorse a single response. Finally, item parameters were investigated for the amount of information they contribute to the latent trait scale. Items that had a maximum amount of information <.05 were also removed from the measures. The remaining 18 items that comprise the STEM-B were internally consistent (α =.84; Allen et al., in press).
Affective Component of Trust

**Letter Sets.** Participants also completed the letter sets task from the Educational Testing Service Kit of Factor-Referenced Cognitive Tests (Ekstrom, French, Harman, & Derman, 1976). The instructions and sample items are included in Appendix H. The ETS Kit is intended to provide a comprehensive assessment of primary factors of cognition, and its psychometric properties are well-substantiated by research (Roberts et al., 2000). As part of this kit, the letter sets task provides a short but reliable assessment of fluid ability. Previous research reports Cronbach’s alpha values of .78 (MacCann et al., 2014; Redick, Unsworth, Kelly & Engle, 2012) and .92 (Johnston, Gradisar, Dohnt, Billows & McCappin, 2010).

The task consists of 15 rows of letters organized into five, four-letter sets. In each row, all but one set follows a predetermined alphabetical ordering. The task is to determine which among the five sets did not follow the alphabetical ordering. For example, in the row of letter sets “ABCD   LMNO   EFGH   QRSV   WXYZ”, “QRSV” does not follow the same alphabetical ordering as the other sets and correctly identifying this set would earn the participant 1 point. Participants could earn a total of 15 points (1 point per row). The participant earned no points if he or she skipped a row, or made an incorrect identification for a row. Participants had seven minutes to complete the task.

**Procedure**

This study consisted of two conditions and two sessions were run in each condition. In Session One the financial decision-making conditioning task was used to create a difference in trust between the fair teammate and the unfair teammate. Session One was the same for both conditions. In the second session of Condition One the researchers attempted to eliminate the trust difference induced in Session One using a financial decision-making conditioning task where both teammates behave fairly. In the second session of Condition Two, the researchers
attempted to eliminate the trust difference induced in Session One using a financial decision-making task where both teammates were unfair (see Table 6). In Session One the teammate demonstrating unfair behavior took increasingly more of the team’s earnings throughout the session (see Figure 4). In Session Two of both conditions the behavioral change was gradual (see Figure 5 & 6). This experimental manipulation of teammate exploitation was particularly useful for examining the impact of Emotion Management Ability. According to Cole, Martin and Dennis (2004) methods that demonstrate change in emotion contribute more to the understanding of emotion management than methods limited to the investigation of emotion valence.

Table 6

*Description of Experimental Sessions for each Condition*

<table>
<thead>
<tr>
<th>Session</th>
<th>Condition</th>
<th>Teammate Behavior</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>N/A*</td>
<td>Teammate A: Fair</td>
<td>Induce an implicit preference and trust</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Teammate B: Unfair</td>
<td>difference between teammates</td>
</tr>
<tr>
<td>Two</td>
<td>One</td>
<td>Teammate A: Fair</td>
<td>Eliminate the implicit preference and trust</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Teammate B: Fair</td>
<td>difference between teammates</td>
</tr>
<tr>
<td>Two</td>
<td>Two</td>
<td>Teammate A: Unfair</td>
<td>Eliminate the implicit preference and trust</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Teammate B: Unfair</td>
<td>difference between teammates</td>
</tr>
</tbody>
</table>

*Session One had only one condition.*
Affective Component of Trust

**Figure 4.** Average proportion of earnings taken by the teammate for each round of investment in Session One. Note: Gaps in the line graph indicate rounds of investment where the team fails to earn a return on their investment.

**Figure 5.** Average proportion of earnings taken by the teammate for each round of investment in Session Two, Condition One. Note: Gaps in the line graph indicate rounds of investment where the team fails to earn a return on their investment.
Affective Component of Trust

Figure 6. Average proportion of earnings taken by the teammate for each round of investment in Session Two, Condition Two. Note: Gaps in the line graph indicate rounds of investment where the team fails to earn a return on their investment.

Initially, participants were asked to rate pictures of people in order to select the teammates for the financial decision-making conditioning task. The rating scale used for this selection process was adapted from De Houwer (2001). Participants were told to indicate if they recognized any of the individuals and if so these individuals were removed from the analysis. After completing the ratings, participants were informed that they would be working on a financial decision-making task with two remote teammates and that their teammates were two of the individuals they rated. The experimenter explained that initial ratings were gathered to assess a first impression of their teammates relative to others. In addition, the experimenter explained that the absence or presence of a teammate’s picture is one of the variables of interest and that, in this condition, participants would see a picture of their teammates but their teammates would not see a picture of them. This explanation was an excuse given in case participants wonder why their teammates did not have a picture of them. In actuality their
Affective Component of Trust
teammates are not real people, but part of the computer program. After providing these ratings participants completed the Mini-marker and the STEM-B.

While the participant completed these questionnaires the experimenter selected the participant’s teammates. Teammate selection was based on two guidelines. The highest priority criterion was that the two teammates selected had as close to the same rating as possible. Since the IAT is a relative measure it was important that initial attitude toward both teammates was approximately equal. In instances where the ratings were not equal, the picture with the lower attitude rating was assigned to the fair teammate condition and the picture with the higher attitude rating was assigned to the unfair condition. Selection was also guided by how close ratings were to the neutral point on the rating scale. The goal was to prevent initial explicit attitude bias toward one teammate over the other and in general select teammates that did not elicit an initial strong positive or negative explicit affective attitude. Next, participants completed the Letter Sets task, baseline Self-Report Trust, Explicit Affective Attitude and Perceived Trustworthiness measures and made an initial Economic Offer to each teammate. Next, participants performed the Implicit Association Task to assess baseline implicit attitude. Once all baseline measures were complete participants received training on the financial decision-making task.

After training, participants began Session One by performing the financial decision-making conditioning task. Next, participants completed Self-Report Trust, Perceived Trustworthiness, Explicit Affective Attitude and Implicit Attitude measures. After completing these measures participants began Session Two. The procedure in Session Two was exactly the same as in Session One except participants were randomly assigned to Condition One or Condition Two. In Condition One the financial decision-making conditioning task involved
Affective Component of Trust

working with the same two teammates except both teammates exhibited fair behavior. In Condition Two both teammates exhibited unfair behavior. After the conditioning task was completed with each teammate in Session Two, participants completed Self-Report Trust, Perceived Trustworthiness, Explicit Affective Attitude and Implicit Attitude measures.

When a teammate demonstrated unfair behavior, the participant failed to achieve his or her financial goal. When a teammate demonstrated fair behavior the participant reached his or her financial goal. The pairing of unfair behavior with failure and fair behavior with goal attainment is consistent across all sessions and conditions.

Results

Of the 108 participants, 7 cases had missing data and were removed. The remaining N=101 (males = 51, females = 50) were used for analysis. Twelve participants did not complete Session Two in this study. Therefore, analyses that include Session Two were computed on the remaining 89 participants. All data were screened for outliers, defined as data having a $z_{\text{score}} > |2.58|$, and replaced with the next largest value. Data were screened for skewness and kurtosis which revealed that all data sets were approximately normally distributed (skewness < |2| and kurtosis < |2|). Box’s correction was used in all analyses where sphericity was violated.

Questionnaire Internal Consistency

All questionnaires containing multiple items were analyzed for internal consistency. The Perceived Trustworthiness questionnaire is designed to measure the factors Perceived Ability, Benevolence and Integrity. Therefore internal consistency was computed for each factor. For the Mini-Markers, internal consistency was computed for each dimension of the Big Five. See the Cronbach’s alpha values in Table 7 below.
Affective Component of Trust

Table 7

*Questionnaire Descriptives*

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th># of Items</th>
<th>α</th>
<th>Mean</th>
<th>SD</th>
<th>α</th>
<th>Mean</th>
<th>SD</th>
<th>α</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Report Trust</td>
<td>10</td>
<td>.70</td>
<td>3.04</td>
<td>.52</td>
<td>.63</td>
<td>1.85</td>
<td>.50</td>
<td>.77</td>
<td>2.03</td>
<td>.61</td>
</tr>
<tr>
<td>Perceived Ability</td>
<td>6</td>
<td>.84</td>
<td>3.36</td>
<td>.57</td>
<td>.93</td>
<td>3.22</td>
<td>1.02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Benevolence</td>
<td>5</td>
<td>.85</td>
<td>2.81</td>
<td>.71</td>
<td>.87</td>
<td>1.26</td>
<td>.36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Integrity</td>
<td>6</td>
<td>.82</td>
<td>3.28</td>
<td>.59</td>
<td>.66</td>
<td>1.67</td>
<td>.47</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>STEM – B</td>
<td>18</td>
<td>.57</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Letter Sets</td>
<td>15</td>
<td>.72</td>
<td></td>
<td></td>
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<tr>
<td>Mini-Markers E</td>
<td>8</td>
<td>.81</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Mini-Markers A</td>
<td>8</td>
<td>.80</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Mini-Markers C</td>
<td>8</td>
<td>.77</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mini-Markers N</td>
<td>8</td>
<td>.71</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mini-Markers O</td>
<td>8</td>
<td>.77</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

**Manipulation Check**

Two one-way ANOVAs were computed to test the effects of exploitation on trust in the unfair teammate. First, the effects of exploitation were manipulated within-subjects to examine a loss in Self-Report Trust toward the unfair teammate after the exploitation. Results revealed a main effect for exploitation on Self-Report Trust, $F(1,100) = 436.43, p < .001, \eta^2_p = .81$. Participants reported significantly less trust in the unfair teammate after the exploitation ($M = 1.85, SD = .50$) when compared to baseline ($M = 3.04, SD = .52$; see Figure 7).
Affective Component of Trust

Figure 7. The effects of exploitation on Self-Report Trust in the Unfair Teammate.

Next, the researcher computed a repeated measures One-way ANOVA to examine the effects of exploitation on the reduction in economic offers made toward the unfair teammate. Results revealed a main effect for exploitation on Economic Offer, $F(1,100) = 215.37, p < .001$, $\eta_p^2 = .68$. Participants gave significantly less money to the unfair teammate after the exploitation ($M = $1.06, $SD = $1.66) when compared to baseline ($M = $5.51, $SD = $2.83; see Figure 8).

Figure 8. The effects of exploitation on the Economic Offer made to the unfair teammate.
Hypothesis 1

Perceived Trustworthiness Factor Analysis. For the Perceived Trustworthiness measure, change in Perceived Trustworthiness of the unfair teammate was computed by subtracting baseline scores from Perceived Trustworthiness measured after the exploitation manipulation. Next, the researcher computed a principle axis factor analysis with a direct oblimin rotation on this change score. The oblique rotation, direct oblimin, was used because previous research suggests that three dimensions of Perceived Trustworthiness specified in the measure may be correlated with each other (Davis et al., 2000). Horn’s Parallel Analysis revealed a three factor solution that mapped onto the three dimensions of Perceived Trustworthiness and accounted for 51.22% of the variance in the measure. The largest factor accounted for 27.92% of the variance and included five of the six items in the measure designed to measure Integrity and one item designed to measure Perceived Benevolence (i.e. item 9). The second factor accounted for an additional 17.27% of the variance and included all six items designed to measure Perceived Ability. The last significant factor included four of the five items designed to measure Perceived Benevolence and accounted for an additional 6.03% of the variance (see Table 8).
Table 8

*Structure Matrix for Three Factor Model of Perceived Trustworthiness*

<table>
<thead>
<tr>
<th>ABI Model</th>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability</td>
<td>Item 1</td>
<td>-</td>
<td>-.861</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Item 2</td>
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<td>-.769</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Item 3</td>
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<td>-.802</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Item 4</td>
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<td>-.844</td>
<td></td>
</tr>
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<td></td>
<td>Item 5</td>
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<tr>
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<td>Item 6</td>
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<tr>
<td>Benevolence</td>
<td>Item 7</td>
<td></td>
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<td></td>
<td>Item 8</td>
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<td>-.756</td>
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<tr>
<td></td>
<td>Item 9</td>
<td>.566</td>
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<td>-.454</td>
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<td>Item 10</td>
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<td>Item 11</td>
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<td>Integrity</td>
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<td>Item 13</td>
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<td>Item 14</td>
<td>.638</td>
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<td>Item 15</td>
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<td></td>
<td>Item 16</td>
<td>.706</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Item 17</td>
<td>.540</td>
<td></td>
<td></td>
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</tbody>
</table>

*Note.* Factor loading $< |.4.00|$ were not included in the table.

The factor analysis revealed the three dimensions of trustworthiness; Perceived Ability, Benevolence and Integrity were captured by Mayer and Davis’s (1999) measure. Consistent with previous research, composite scores for each dimension of trustworthiness were formed by
Affective Component of Trust

computing the average across the items designed to measure each dimension (Davis et al., 2000; Frazier et al., 2015). The composite change scores for Perceived Ability, Benevolence and Integrity were used for all subsequent analyses involving perceived trustworthiness.

**Bivariate Correlations.** Bivariate correlations were computed to assess the associations between Emotion Management Ability, affective attitude change, the three perceived trustworthiness factors and trust in the unfair teammate. Before Emotion Management Ability was included in the correlations with other possible predictors of trust, it was important to verify that it demonstrates divergent validity with Fluid Ability. A bivariate correlation was computed to examine the association between Emotion Management Ability and Fluid Ability. The analysis revealed no significant association between the two variables \((r = -.01)\). Emotion Management Ability was included in the analysis as well as centered interaction terms between Emotion Management Ability and both Implicit and Explicit Attitude Change. The interaction terms were included in the correlations to examine moderating effects of emotion management on the relationship between affective attitude and trust.

Implicit attitude was computed using Greenwald, Nosak and Banaji (2003) improved scoring algorithm for measuring the IAT effects called \(D\). \(D\) is an effect size measure similar to Cohen’s \(d\) and is used to assess the attitude of the unfair teammate compared to the fair teammate. The algorithm involves eliminating reaction time outliers <300 ms and > 10,000 ms. Next reaction time in blocks 3 was subtracted from block 5 to generate a within-groups difference score. This difference score is then divided by the pooled standard deviation for both blocks. \(D\) was calculated for both baseline and post exploitation and baseline \(D\) was subtracted from post exploitation \(D\) to compute the relative shift in implicit bias due to the exploitation. To compute explicit attitude shift, explicit attitude toward the unfair teammate was subtracted from
Affective Component of Trust

explicit attitude toward the fair teammate in both the baseline and post-exploitation conditions. Next, the baseline difference score was subtracted from the post-exploitation difference score to compute the relative shift in explicit bias due to the exploitation. Change in trust from baseline to post exploitation was computed by subtracting baseline trust scores from the trust in the unfair teammate post exploitation. Change scores were computed for both Self-Report Trust and Economic Offer.

Explicit Attitude Change and change scores for all three perceived trustworthiness factors were significantly correlated with Self-Report Trust. An increase in positive Explicit Attitude Change toward the fair teammate was associated with a loss of trust in the unfair teammate ($r = - .45$). A decrease in Perceived Ability of the unfair teammate was associated with decreased trust in the unfair teammate ($r = .29$). A decrease in Perceived Benevolence of the unfair teammate was associated with a loss of trust in this teammate ($r = .35$). In addition, a decrease in Perceived Integrity of the unfair teammate was associated with a decrease in trust in this teammate ($r = .41$). Finally, the interaction between Implicit Attitude Change and Emotion Management Ability was associated with Self-Report Trust ($r = .28$). A similar pattern of associations was seen with Economic Offer except for a lack of association between Perceived Ability and Economic Offer and no significant association between the interaction terms and Economic Offer (see Table 9). Although there is a significant positive association between Implicit and Explicit Attitude the evidence suggests that these variables still reflect different constructs. First the association is not very strong (i.e. $<.3$). In addition, these variables do not have the same relationship with other variables in the study. For example, Explicit Attitude is associated with the perceived trustworthiness variables and Implicit Attitude is not associated with these cognitive predictors of trust.
Affective Component of Trust

Table 9

*Emotion Management Ability, Affective Attitude and Perceived Trustworthiness Change*

correlations with Change in Trust

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<tr>
<th>Measure</th>
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<td>.29**</td>
<td>.35***</td>
<td>.41***</td>
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<td>.05</td>
<td>.28**</td>
<td>.14</td>
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<td>.25*</td>
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</tbody>
</table>

*Note.* Emotion Management is the only variable in the correlation matrix that is not a change score. *p<.05, **p<.01, ***p<.001.

**Hierarchical Regressions.** To test Hypothesis 1 a hierarchical multiple regression for change in Self-Report Trust and Economic Offer after the exploitation was computed. The regression results for the theoretical model were shown below (see Table 10). Explicit Attitude Change predicted Self-Report Trust after controlling for the Perceived Ability, Integrity and Benevolence of this teammate. In step two of the model, affective attitude change (both explicit and implicit included) accounted for a significant amount of unique variance associated with Self-Report Trust in the unfair teammate ($\Delta R^2 = .06, p = .02$). In step three of the model, the
Affective Component of Trust

interaction between Implicit Attitude Change and Emotion Management Ability accounted for a significant amount of unique variance, after controlling for both affective attitude change main effects and the perceived trustworthiness variables ($\Delta R^2 = .057$, $p = .02$). At this step the $\beta$s for Perceived Ability (.19, $p = .041$), Perceived Integrity (.23, $p = .023$), Explicit Attitude Change (-.23, $p = .024$) and the interaction between Implicit Attitude Change and Emotion Management Ability were significant (.23, $p = .028$). A decrease in the Perceived Ability of the unfair teammate predicted loss of trust in this teammate. Also, a decrease in the Perceived Integrity of the unfair teammate predicted loss of trust in this teammate. In addition, explicit attitude shift in favor of the fair teammate predicted loss of trust in the unfair teammate. A scatterplot of the interaction between Implicit Attitude Change and Emotion Management Ability revealed that participant Implicit Attitude Change predicted Self-Report Trust, but only for participants with low emotion management scores (see Figure 9). For participants with poor emotion management, the increase in negative implicit attitude toward the unfair teammate (relative to the fair teammate) predicted a loss of trust in the unfair teammate.
### Table 10

*Hierarchical Regression for Theoretical Model: Summary for Perceived Trustworthiness and Affective Attitude Predicting Self-Report Trust.*

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<th>df2</th>
<th>$F$</th>
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<th>$\Delta$Sig</th>
<th>$\beta$</th>
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*p < .05, ***p < .001
Affective Component of Trust

Figure 9. The moderating effects of Emotion Management Ability on the association between Implicit Attitude Change and Self-Report Trust.

A second regression was computed to test the extent to which affective attitude change predicted reduction in Economic Offer made to the unfair teammate, after controlling for Perceived Ability, Benevolence and Integrity. The predictors in the theoretical model for this dependent variable are identical to those in the theoretical regression model for Self-Report Trust (see Table 11). Explicit Attitude Change predicted Economic Offer after controlling for the perception of this teammate’s trustworthiness. In step two of the model, change in affective attitude accounted for a significant amount of unique variance associated with trust in the unfair teammate ($\Delta R^2 = .094, p = .005$). At step two, only the $\beta$ for Explicit Attitude Change ($-.30, p = .007$) significantly predicted a reduction in Economic Offer. A large Explicit Attitude Change in favor of the fair teammate predicted a reduction in the Economic Offer given to the unfair teammate (see Table 11). The interactions between affective attitude and Emotion Management
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Ability did not account for a significant amount of unique variance associated with trust in the unfair teammate ($\Delta R^2 = .044$, $p = .067$). However the $\beta$ for the interaction between Explicit Attitude Change and Emotion Management Ability was statistically significant ($-.24$, $p = .022$). Further investigation revealed that the interaction term for Implicit Attitude Change and Emotion Management Ability acted as the primary suppressor variable causing the Explicit Attitude and Emotion Management interaction term to increase its predictive power. The partial correlation for the Explicit Attitude and Emotion Management interaction was smaller ($r = -.18$) when the Implicit Attitude and Emotion Management Interaction was excluded from the model compared to when this predictor is included ($r = -.23$). In addition, the Implicit Attitude and Emotion Management interaction term fits the criteria of a suppressor variable in that it is significantly correlated with the predictor but uncorrelated with the dependent variable (see Table 9). It may be that the Implicit Attitude and Emotion Management interaction term removes variance associated with Emotion Management Ability found in the Explicit Attitude and Emotion Management interaction term. The removed variance is uncorrelated with the dependent variable so that the remaining variance in the Explicit Attitude and Emotion Management interaction has a stronger association with the dependent variable.
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Table 11

*Hierarchical Regression for Theoretical Model: Analysis Summary for Perceived Trustworthiness and Affective Attitude Predicting Economic Offers.*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>adj $R^2$</th>
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<th>df2</th>
<th>$F$</th>
<th>$\Delta R^2$</th>
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<th>$\beta$</th>
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*p<.05, **p<.01, ***p<.001

Hypothesis 2

Inconsistent with Hypothesis 2, bivariate correlations revealed no significant associations between Emotion Management Ability and change in both Implicit ($r = 0.01$) and Explicit Attitude ($r = 0.05$; see Table 9). However, Implicit and Explicit Attitude Change were significantly correlated with each other ($r = .26$; see Table 9). An increase in negative explicit affective attitude toward the unfair teammate relative to the fair teammate was associated with an increase in negative implicit affective attitude toward the unfair teammate relative to the fair teammate.
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Exploratory Analysis

**Personality and Affective Attitude Change.** In addition to the individual difference Emotion Management Ability, the researcher explored possible associations between personality and affective attitude shift. Bivariate correlations were computed to explore the relationship between the Five-Factor Model and Implicit and Explicit Affective Attitude Change from pre to post trust violation. The analysis revealed both Implicit and Explicit Attitude Change were significantly positively correlated with Agreeableness (A) (Implicit $r = .21$, Explicit $r = .27$; see Table 12). High A individuals showed a greater increase in their negative implicit and explicit affective attitude toward the unfair teammate relative to the fair teammate.

Table 12

Affective Attitude Change and Personality Correlations

<table>
<thead>
<tr>
<th>Measure</th>
<th>O</th>
<th>C</th>
<th>E</th>
<th>A</th>
<th>N</th>
</tr>
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<td>.08</td>
<td>.21*</td>
<td>.03</td>
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</table>

*p<.05, **p<.01

The association between Implicit and Explicit Attitude Change suggests Explicit Attitude Change may mediate the relationship between Implicit Attitude Change and trust. To explore if Implicit Attitude Change still predicted Explicit Attitude Change after controlling for A, a hierarchical multiple regression was computed. In step two of the model Implicit Attitude Change accounted for a significant amount of unique variance associated with Explicit Attitude Change ($\Delta R^2 = .044$, $p = .029$). At step two the $\beta$s for Implicit Attitude Change (.22, $p = .029$) and A (.23, $p = .021$) were significant. A large increase in negative Implicit Attitude toward the
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unfair teammate relative to the fair teammate predicted a large increase in negative Explicit Attitude toward the unfair teammate relative to the fair teammate after controlling for A (see Table 13).

Table 13

Hierarchical Regression Analysis Summary for Implicit Attitude and A Predicting Explicit Attitude.

<table>
<thead>
<tr>
<th>Predictor</th>
<th>adj $R^2$</th>
<th>$R^2$</th>
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<th>df2</th>
<th>$F$</th>
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<td>.22*</td>
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</table>

*p<.05, **p<.01

Teammate Behavior and Implicit Attitude. A 2x3 Mixed ANOVA was computed to explore the effects of teammate behavior change from Session One to Session Two on implicit attitude. In this analysis the repeated measures independent variable was Time with three levels (Baseline, Session One: Fair/Unfair, Session Two: Fair/Fair or Unfair/Unfair) and the between-groups variable was the Behavior Change from Session One to Session Two (either Fair becomes Unfair or Unfair becomes Fair). The dependent variable was the measure of implicit attitude, D. Levene’s test for homogeneity of variance revealed heterogeneity of variance at Session One, $F(1,87) = 6.02, p = .016$. However, ANOVA is robust to violations of homogeneity of variance. Results revealed a significant main effect for Time, $F(2, 174) = 7.98, p < .001, \eta_p^2 = .08$. Fischer’s Least Significant Difference Multiple comparisons revealed implicit bias toward the fair teammate at both Session One ($M = .21, SD = .33; p < .001$) and Session Two ($M = .14, SD = .36; p = .03$) was significantly stronger than Baseline ($M = .04, SD = .36$; see Figure 10). In
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addition, implicit attitude did not respond to the behavior change from Session One to Session Two ($p = .10$). The main effect for Behavior Change, $F(1,87) = .002, p = .961, \eta^2_p < .001$, and the interaction $F(2,174) = 1.644, p = .196, \eta^2_p = .02$ were not statistically significant.

![Bar chart showing implicit bias changes](image)

*Figure 10.* The effects of teammate behavior on Implicit Attitude.

**Trust Repair.** The Researchers examined the 45 participants in the trust repair group (i.e. unfair teammate becomes fair) to determine if trust repair would significantly increase trust in the unfair teammate. Two One-way ANOVAs were computed on this sample. The effects of the independent variable Time was examined in this analysis on the two measures of trust; Self-Report Trust, Economic Offers. Sphericity was violated for both analyses so the Greenhouse-Geisser correction was applied.

The effect of Time on Self-Report Trust in the unfair teammate was statistically significant, $F(1.74, 76.35) = 112.55, p < .001, \eta^2_p = .72$. Fischer’s Least Significant Difference multiple comparisons revealed trust at baseline ($M = 3.09, SD = .58$) was significantly higher than trust after the exploitation ($M = 1.85, SD = .53; p < .001$) and after the attempt at trust repair.
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\(M = 2.03, SD = .61; p < .001; \) see Figure 11. Although the attempt at trust repair did not restore trust to baseline levels, it did significantly increase trust \((p < .023)\).

**Figure 11.** The effects of an exploitation and trust repair on Self-Report Trust.

The effect of Time on Economic Offer was statistically significant, \(F(1.44, 63.42) = 59.42, p < .001, \eta^2 = .58\). Fischer’s Least Significant Difference Multiple comparisons revealed economic offers at baseline \((M = $5.67, SD = $2.66)\) were significantly higher compared to offers made post exploitation \((M = $1.39, SD = $1.95; p < .001)\) and post trust repair \((M = $2.30, SD = $2.31; p < .001; \) see Figure 12). Although trust repair did not increase Economic Offer to the baseline level, the attempt at trust repair did significantly increase the economic offer from post exploitation \((p = .001)\).
Affective Component of Trust

Figure 12. The effects of an Exploitation and Trust Repair on an Economic Offer.

Change from Fair to Unfair. It is possible the statistically significant loss of trust post exploitation was largely due to the fact that the teammate’s unfair behavior was the participant’s first and only interaction with the teammate. The researcher wanted to examine if the loss of trust due to exploitation would be less pronounced if the participant had a previous positive experience with the teammate. The researcher examined the 44 participants in the fair to unfair group to determine if fair teammate behavior in Session One would help guard against trust loss due to exploitation in Session Two. Two One-way ANOVAs were computed on this sample. The effects of the independent variable Time was examined in this analysis on the two measures of trust; Self-Report Trust, Economic Offers. Sphericity was violated for the analysis on Self-Report trust so the Greenhouse-Geisser correction was applied for this analysis.

The effect of Time on Self-Report Trust in the fair teammate who becomes unfair was statistically significant, $F(1.73, 74.28) = 101.76, p < .001, \eta^2_p = .70$. Fischer’s Least Significant Difference multiple comparisons revealed trust after the teammate’s fair behavior in Session One ($M = 3.85, SD = .49$) was significantly higher compared to trust at baseline ($M = 3.03, SD = .43$;
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$p < .001$). However, the teammate’s fair behavior in Session One did not protect against loss of trust after the exploitation in Session Two. Trust was significantly lower after the exploitation in Session Two ($M = 2.32, SD = .64$) compared to both trust after Session One ($p < .001$) and trust at baseline ($p < .001$; see Figure 13).

![Figure 13](image-url)

Figure 13. The effects of fair behavior in Session 1 followed by unfair behavior in Session 2 on Self-Report Trust.

The effect of Time on Economic Offer was statistically significant, $F(2, 86) = 118.09, p < .001, \eta^2_p = .73$. Fischer’s Least Significant Difference multiple comparisons revealed Economic Offer after the teammate’s fair behavior in Session One ($M = $8.84, $SD = $2.21) was significantly higher compared to the Economic Offer at baseline ($M = $5.24, $SD = $2.78; $p < .001$). However, the teammate’s fair behavior in Session One did not protect against a reduction in Economic Offer after the exploitation in Session Two. Trust was significantly lower after the exploitation in Session Two ($M = $2.62, $SD = $2.25) compared to both the Economic Offer after Session One ($p < .001$) and the Offer at baseline ($p < .001$; see Figure 14).
Figure 14. The effects of fair behavior in Session 1 followed by unfair behavior in Session 2 on an Economic Offer.

Discussion

ABI Model

The unfair teammate’s exploitation led to a significant loss of trust in this teammate as reflected by both a decrease in Self-Report Trust and a reduction in Economic Offer made to the teammate. For both measures of trust the combination of reductions in Perceived Ability, Benevolence and Integrity significantly predicted this loss. This finding is consistent with previous research exploring the relationship between the ABI model and trust (Davis et al., 2000; Frazier et al., 2014). However, it should be noted that a loss of Perceived Benevolence was the only significant predictor of Economic Offer among these three variables. It is not surprising that Perceived Ability did not predict Economic Offer because the teammate’s ability would have no bearing on whether or not the teammate would share the quadrupled sum. However, it is surprising that loss of Perceived Integrity failed to predict the reduction in Economic Offer. Unfair behavior is one of the key components of a lack of integrity according to Mayer and
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Davis’s (1999) perceived trustworthiness measure. One would expect a decrease in Perceived Integrity to predict a reluctance to trust the teammate with a high Economic Offer.

**Hypothesis 1**

The ABI variables were not the only significant predictors of trust loss. Consistent with Hypothesis 1, after controlling for the ABI model, affective attitude change significantly predicted a decrease for both trust measures. Although affective attitude change does appear to be associated with change in perceived trustworthiness, there is also a direct association between change in affective attitude and loss of trust. It appears the relationship between affect and trust is not completely mediated by the ABI model as was suggested by Schoorman et al. (2007). In fact, the addition of affective attitude change measures almost doubled the amount of predicted variance in Economic Offer reduction.

Of the two affective attitude measures, Explicit Attitude Change was the stronger predictor of trust. This variable was the only significant affective attitude predictor of Economic Offer reduction. In fact, the main effect for Explicit Attitude Change was one of the strongest predictors of trust loss in both regression models including measures of perceived trustworthiness.

The relationship between Implicit Attitude Change and loss of trust is more complicated. First, the unfair teammate’s exploitation led to an increase in negative implicit attitude toward the unfair teammate (relative to the fair teammate). Although exploitation led to changes in both trust and implicit attitude, the relationship between these changes appears to be somewhat dependent on both the measure of trust and a person’s Emotion Management Ability.

For Self-Report Trust, Implicit Attitude Change interacted with Emotion Management Ability to predict loss of trust. If an individual has poor Emotion Management Ability, the
strength of their implicit attitude change directly predicts their loss of trust. The stronger their implicit attitude changes to favor the fair teammate, the more trust they lose in the unfair teammate. This association is not present for individuals who have average to high Emotion Management Ability. The interaction suggests that Emotion Management Ability prevents implicit attitude from directly influencing trust, but was not significant for the Economic Offer measure. Regardless of Emotion Management Ability, implicit attitude did not predict reduction in Economic Offer.

The significant interaction is consistent with the Default Interventionist view of dual systems theory. According to this view, Type 1 process is the default process and impacts attitude formation unless the Type 2 process intervenes (Evans & Stanovich, 2013). Researchers suggest cognitive ability is an individual difference that may influence this intervention (Evans, 2007; Thompson & Johnson, 2014). According to Evans (2007) there are two possible explanations for how cognitive capacity impacts Type 2 intervention. One explanation, referred to as the quantity hypothesis, states that along with cognitive style, cognitive ability is an individual difference that affects a person’s preference for Type 2 thinking. Individuals with greater cognitive ability are more likely to override Type 1 process in favor of Type 2, regardless of whether engaging the Type 2 process actually results in a more accurate solution or appropriate response. Some empirical evidence supports this hypothesis. Thompson and Johnson (2014) found that participants with a high cognitive capacity, determined by IQ score, engaged in more Type 2 deliberation when asked to solve reasoning tasks as evidence by longer thinking time and an increased probability of answer changing compared to low capacity individuals. In addition, this deliberation did not improve task accuracy.
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A competing explanation is the quality hypothesis. According to this hypothesis, individuals with greater cognitive ability are no more likely to engage in Type 2 processes compared to low capacity individuals. However, when high capacity individuals do decide to use Type 2 thinking, they are more successful at using this process to solve problems (Evans, 2007).

The interaction in the current study provides support for the quantity hypothesis. Research suggests Emotion Management Ability, in conjunction with the other components of EI, can be considered a factor of intelligence (MacCann et al., 2014) and therefore can be more broadly identified as a cognitive ability. Consistent with the quantity hypothesis, individuals higher in Emotion Management Ability were more likely to override Type 1 process and prevent the direct influence of Implicit Attitude Change on trust. Instead, these individuals favored the more deliberative explicit attitude generated by Type 2 process. It is important to note that, in this study, overriding implicit attitude’s direct influence on trust had no effect on the participant’s loss of trust post exploitation. Participants with low Emotion Management Ability experienced the same degree of trust loss as those with moderate or high Emotion Management Ability.

Regardless of the trust measure, Implicit Attitude Change did significantly predict Explicit Attitude Change. Therefore, Implicit Attitude Change does appear to have an indirect role in trust development. The relationship between Implicit Attitude Change and Self-Report Trust is partially mediated by Explicit Attitude Change for individuals with low Emotion Management Ability and the relationship is completely mediated for individuals with average to high Emotion Management Ability. The relationship between implicit and explicit attitude is not always present in empirical studies (Merritt et al., 2013).
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However, this finding is consistent with Giner-Sorolla’s (1999) research on the affective attitude component. This significant association may reflect one of the many instances where the immediate evaluation component (i.e. implicit attitude) of the affective attitude informs the emotional response component (i.e. explicit attitude). In addition, the Associative Propositional Evaluation (APE) Model proposed by Gawronski and Bodenhausen (2006) predicts that a positive correlation between implicit and explicit attitude will exist in certain situations. According to this model, explicit attitudes are governed by propositional reasoning and implicit attitudes by associative processes. The APE Model suggests that the exploitation manipulation in the current study should have had a similar effect on both propositional reasoning and the associative processes. The manipulation was strong and unambiguous and there is no reason to expect that it would not affect both the reasoning and associative processes in a similar way. In addition, change in propositional reasoning (i.e. explicit attitude) and associative evaluation (i.e. implicit attitude) can influence each other (see Figure 15). According to the APE model, implicit and explicit attitudes can be changed directly by exploitation and indirectly by influencing each other.

Figure 15. Associative Propositional Evaluation Model proposed by Gawronski and Bodenhausen (2006).
Hypothesis 2

Hypothesis 2 was not supported by the results. Emotion Management Ability did not predict change in either affective attitude measure. It appears that emotion management’s role is to prevent implicit attitude from directly influencing trust. Instead the personality dimension A appears to contribute to both implicit and explicit affective attitude. The exploitation seems to have a stronger impact on affective attitude for those high in A.

Role of Agreeableness

A is a social dimension of personality. This personality dimension helps predict how a person will engage others in social interactions. Individuals high in A are characterized as kind, trusting, straightforward, altruistic, compliant, modest and tender-minded (Matthews, Dreary & Whitman, 2009). Haas, Omura, Constable and Canli (2007) found that individuals high in A automatically engage in negative affect regulation in response to negative stimuli. Another researcher found high A individuals were more accepting of their teammates after many hours of small group teamwork (Hurley, 1998). In a diary study of friendship dyads, Berry, Willingham and Thayer (2000) found high A participants were more likely to report being loyal to their friends during conflict and reported less irritation during conflicts. These findings all conflict with the current study’s finding that high A individuals were the most negatively affected by the unfair teammate’s exploitation.

There is, however, some empirical evidence to support the current study’s finding. Kammrath and Scholer (2011) conducted four studies that revealed individuals high in A showed the most extreme negative reactions to individuals who behaved in an unkind or immoral way toward others. Kammrath and Scholer (2011) referred to these acts as ‘communal transgressions’. According to Kammrath and Scholer (2011) ‘communal transgressions’ violate
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high A individuals strongly held pro-social values causing high A’s to harshly judge individuals who commit these transgressions. Kammrath and Scholar’s (2011) findings appear to conflict with much of the previous literature (Haas et al. 2007; Hurley, 1998; Berry et al., 2000).

However, these researchers explain this inconsistency by identifying two boundary conditions that must exist in order for the High A individuals to respond negatively to another individual’s ‘communal transgression’. First, the transgression must be strong and unambiguous. Mild or ambiguous violations give the high A individual the opportunity to bias their encoding of the event in a more agreeable light. In the Kammarth and Scholar (2011) study the transgressions committed were clear violations. In addition, the high A person must not be given the opportunity or incentive to regulate his or her negative reaction. Kammarth and Scholar (2011) discouraged regulation by recording private, immediate reactions from participants. It is likely that most investigators do not provide high A individuals with unambiguous negative stimuli in a tightly controlled environment. For example, both Hurley (1998) and Berry et al. (2000) had much less control over high A individuals interactions with their friends and teammates. In addition, the researchers did not record participants’ immediate reactions to conflicts and transgressions committed by others. This gave participants time to practice emotion regulation and work to resolve the conflicts before recording their responses for the researchers.

Unlike Hurley (1998) and Berry et al. (2000), the current study met the two boundary conditions identified by Kammarth and Scholar (2011). The unfair teammate’s exploitation was clear and undeniable. In addition, participants privately reported their affective attitude change immediately after the transgression. As a result, high A individuals experienced a stronger negative reaction to the exploitation than others.
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Teammate Behavior and Implicit Attitude

The initial shift in implicit bias was statistically significant, but the effect was small. It is important to consider that although the effect size was small, the researcher was able to induce a change in implicit attitude after only approximately 30 minutes of work with the fair and unfair teammates. This finding suggests that it may not require months or even weeks of repeated interaction to induce an implicit attitude. Implicit attitude may be susceptible to first impressions of limited duration.

Session Two of this study was designed in part to explore which type of behavior has a more powerful impact on implicit attitude change. The researcher wanted to examine if implicit attitude was more influenced by the fair teammate’s behavior or the unfair teammate’s exploitation. In Session Two participants were randomly assigned to one of two groups; those who experienced the fair teammate in Session One become unfair in Session Two, and those who experienced the unfair teammate in Session One become fair in Session Two. If participants were more influenced by unfair behavior, the teammate changing from fair to unfair would have generated a stronger reduction in implicit bias. If participants were more influenced by fair behavior, the teammate changing from unfair to fair would generate a stronger reduction in implicit bias. A significant difference between the two types of behavior change would have been reflected in a significant interaction between the Time and Behavior Change variables. However, there was no significant interaction. Neither behavior change from Session One to Session Two significantly reduced the implicit bias generated during Session One. These findings suggest fair and unfair behaviors are roughly equal in their impact on implicit bias and initial behavior may have a lasting effect on implicit attitude (see Figure 11).
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The lasting effect of implicit attitude is somewhat surprising because empirical evidence supports the malleability of existing implicit attitudes. For example Desgupta and Greenwald (2001) found that implicit racial and age biases could be significantly weakened by exposure to positive and negative examplars. These researchers found that the reduction of implicit bias persisted over a 24 hour period. Similar to Desgupta and Greenwald (2001), Desgupta and Rivera (2008) found exposure to positive examplars of gays and lesbians reduced implicit bias against homosexuals.

There are two explanations for why the current study’s findings diverge from the previous research on the malleability of implicit attitudes. First, there are some key differences between the current study and these studies. The current study was manipulating and assessing implicit attitudes toward two specific individuals built on one event, not entire groups of people based on a lifetime of both positive and negative interactions, as was the case in the previous research (Desgupta and Greenwald, 2001; Desgupta and Rivera, 2008). Perhaps it is more difficult to adjust an implicit attitude toward a specific person when one’s history with that person consists of one unambiguously positive or negative experience.

Another difference between the current study and previous research is the temporal relationship between the generation of the implicit bias and the attempt at modifying this bias. In the previous research, it is likely none of the experiences that led to implicit racist, sexist or homophobic attitudes occurred immediately before the experimental intervention. In the current study, however, the researcher attempted to reduce the bias just minutes after it was created. Perhaps the time interval between the initial induction (i.e. Session One) and the attempt at attitude change (i.e. Session Two) was too short to effectively adjust implicit attitude. An implicit attitude’s susceptibility to change may be influenced by the recency of the events that
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caused the attitude to develop. Associations may weaken with time and become more vulnerable to change.

Another possible reason the current study failed to significantly modulate implicit attitude may be that the behavior change in Session Two was not strong enough to induce a change. For example, in Condition One of Session Two the unfair teammate changed his or her behavior gradually becoming fair over 15 trials. It is not until trial 15 that this teammate begins splitting earnings evenly with the participant. The other teammate in Session Two was fair throughout Session One and continues to split the earnings evenly throughout Session Two. Although the participant reaches his or her financial goal in Session Two with both teammates, he or she is given considerably more money by the teammate who remains consistently fair throughout the session. In short, even though the unfair teammate improves his or her behavior in Session Two, he or she may still be perceived as unfair compared to the other teammate in the session. It is important to note that there was a nonsignificant decrease in implicit bias after Session Two. Perhaps a stronger behavior change, either in terms of intensity or duration, would have generated a significant reduction in implicit attitude strength.

Trust Repair

Both measures of trust showed a similar response to the unfair teammate’s attempt at trust repair. The trust repair attempt was enough to significantly increase trust. However, trust was still significantly lower than baseline levels. These findings are consistent with previous research by King-Casas et al. (2008) which suggests that a trust violation due to exploitation can be repaired by increasing generosity.

The researcher can only speculate as to why the trust repair attempt did not completely restore trust to baseline levels. Perhaps the increased generosity was not generous enough to
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cause a complete restoration. The generous behavior in the trust repair condition increased gradually and was not as generous as the other teammate they worked with in this session. Another possibility is that the 15 minutes of interaction with this teammate in Session Two was not enough time to completely reverse loss of trust. It is also possible trust cannot be completely restored after this type of trust violation.

Future Research

Future research should explore the impact of other behaviors on the relationship between implicit and explicit affective attitudes and trust. The current study suggests exploitation changes affective attitude and reduces trust. Other types of trust violations may or may not generate similar effects and should be investigated. Researchers have identified a variety of other behaviors that have led to trust violations (Grover et al., 2014; Kim et al., 2006). Perhaps other behaviors produce a different relationship between implicit and explicit affect attitude and trust. It is possible that some violations such as exploitation generate a negative automatic affective reaction while other behaviors may primarily impact individuals’ Type 2 process, leaving Type 1 process largely unaffected. For example, individuals may be less likely to experience a negative implicit attitude toward an incompetent teammate and only formulate a negative explicit attitude through deliberate consideration. Another possibility might be that individuals do not experience a negative implicit or explicit attitude toward an incompetent teammate, but trust still declines due to cognitive predictors such as perceived lack of ability.

In this study there was enough time for participants to develop a well formed explicit affective attitude and this attitude played a large role in predicting trust. In addition, implicit attitude played a smaller mostly indirect role in trust development. In fact, only participants with low Emotion Management Ability allowed implicit attitude to directly influence trust. Future
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research should examine situations where implicit attitude might play a more significant role in trust. For example, research suggests that under time pressure people rely more heavily on intuition and implicit processes to make decisions (Kahneman & Klein, 2009). Type 2 process is cognitively effortful and time consuming and may not be useful under time pressure. Type 1 process generates fast responses and may be the best option in this situation (Kahneman & Klein, 2009). It is possible implicit attitude would play a stronger role in trust related decisions and judgments in situations when time pressure requires an immediate response.

It would also be interesting to explore the role of Emotion Management Ability when under time pressure. In the current study, it is possible individuals with moderate to high Emotion Management Ability suppressed the direct influence of implicit attitude on trust because these individuals had time to generate well formed explicit attitudes. With less time to form an accurate explicit affective attitude, perhaps people with moderate to high Emotion Management Ability would allow implicit attitude to have a direct influence. This investigation would help determine how individuals with moderate to high Emotion Management Ability employ their ability to override Type 1 process. One possibility, consistent with the quantity hypothesis, is that individuals with moderate to high Emotion Management Ability override implicit attitude’s direct influence on trust even though reliance on Type 1 process would be beneficial when under time pressure. This possibility would suggest Emotion Management Ability reflects a cognitive style or preference for Type 2 process regardless of its benefit. A second possibility, consistent with the quality hypothesis, is that individuals with moderate to high Emotion Management Ability do not override Type 1 process when under time pressure because doing so would actually be detrimental to performance. This possibility would suggest individuals can intelligently apply their Emotion Management Ability to achieve the optimal response.
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In addition, Emotion Management Ability’s association with Type 1 and Type 2 processes may not generalize beyond interpersonal relationships. All of the items in the STEM-B relate to managing emotions that result from interpersonal conflicts. Future research should explore if individuals with high to moderate Emotion Management Ability are more likely override implicit biases that do not result from interpersonal exchanges.

Future research should also focus on experimentation in a more ecological environment with actual work teams. For example, researchers could investigate the impact of exploitation and trust repair on teams during a training exercise where resources must be shared and abuse of power is possible. Perhaps teammate behavior would impact trust differently in actual teams such as military units or control room operators instead of undergraduates working on a team task with an unknown partner. In the current study, increasing generosity significantly increased trust after the trust violation. Perhaps in a more ecologically valid experiment this attempt at trust repair would have less influence on trust. For example, Grover et al.’s (2014) qualitative analysis found exploitation by one’s employer was considered an irrecoverable trust violation. In addition, the Cusp Model when applied to attitude change (Flay, 1978; Liu & Latane, 1998) suggests individuals who are very involved in the trust relationship may be less likely to adjust their trust in response to attempts at trust repair. It is likely team members from actual work teams would be more invested in a trust relationship with their teammates compared to the undergraduates in the current study.

This study shows a distinction between cognitive and affective predictors of trust. The findings suggest that affect’s role in trust is not completely mediated by cognitive predictors. It is possible that at least part of affect’s role in trust development may be mediated by other predictors such as perceived reliability and faith. Future research could investigate a more
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comprehensive list of predictors to see if the predictive power of affect can be completely accounted for by cognitive mediators.

Future research exploring the Cusp Model in Catastrophe Theory may be able to explain the difference in findings between the actual employees interviewed in Grover et al. (2014) and the current study on the effectiveness of trust repair. This model has been used in previous research to explain the nonlinear effects of information on attitude change. According to the Cusp Model, attitude is the dependent variable expressed as $X$ and it is influenced by two factors; the normal factor expressed as $\alpha$ and the splitting factor expressed as $\beta$ (Maas, Kolstein, & Pligt, 2003; see Figure 16).

![Cusp Model of attitude change from Maas and Pligt (2003).](image)

*Figure 16. Cusp Model of attitude change from Maas and Pligt (2003).*

When applying the Cusp Model to attitude change the normal factor is information. This variable is very broadly defined as anything that could possibly influence the attitude including
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previous experience, self-interest, genetic disposition and environmental effects (Zeeman, 1976). In the case of trust in a teammate, information might be characterized as the teammate’s previous behavior such as whether or not the teammate provided assistance or preformed competently on a team task. The other factor in the Cusp Model that influences the dependent variable is called the splitting factor because it bisects the cusp (Zeeman, 1976). When applying the Cusp Model to attitude change the splitting factor is the individual’s level of involvement. Participant’s involvement could be expressed in a variety of ways including importance (Liu & Latane, 1998) or amount of work invested (Flay, 1978). In the case of trust, the trustor’s involvement could be expressed as perceived risk. If a great deal is at risk, such as the trustor’s safety or a significant amount of money, involvement may be high. However, if a trust violation results in only a minor inconvenience (i.e. low risk) the individual’s involvement may be low. If involvement is low, the attitude will adjust along a continuum responding incrementally to incremental changes in information. This dynamic is the typical functional relationship where each value of $\alpha$ gives rise to unique value in X (Stewart & Peregoy, 1983). For example, if a new behavior exhibited by a teammate is considered trustworthy, this new information will result in a small increase in trust. On the other hand, if involvement is high, incremental changes in information do not cause incremental changes in attitude. Instead, initial smooth changes in information do not have an immediate impact on attitude. Attitude remains unchanged until enough information has accumulated which leads to a sudden, substantial attitude shift (Stewart & Peregoy, 1983).

This model may explain some of the mixed findings on trust repair. The current study found that trust violations due to exploitation could be repaired. However, Grover et al.’s (2014) study involving actual employees suggests these trust violations are irrecoverable. One interpretation is that students in the current study have less at stake, and therefore lower involvement, if trust is
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violated compared to employees who have their careers at risk. The student population’s trust may be more responsive to attempts at trust repair due to their low involvement in the trust relationship. On the other hand, employee trust may remain unchanged despite attempts at trust repair because of high perceived risk. According to the Cusp Model, persistent attempts at trust repair should eventually reach a point where employee trust suddenly shifts from low to high. This prediction, however, is inconsistent with Grover et al.’s (2014) findings, which suggest that no amount of trust repair can restore trust violations that result from deception and broken promises. It should be noted, however, that Grover et al.’s (2014) findings were based on employee interviews, so it is difficult to say without empirical investigation whether or not employee trust could be restored by employer attempts at trust repair.

Consistent with the Cusp Model (Maas & Pligt, 2003), perhaps future research could examine teams in a real work environment who have more at stake. Perhaps actual employees would not be as responsive to a trust repair condition. In addition, future research should directly measure participant involvement to examine if this variable moderates the effects of increased generosity on trust.

**Practical Applications**

The current study’s findings suggest change in implicit attitude may contribute to loss of trust. Implicit attitude is shaped by associations stored in memory based on previous experiences and changing implicit attitude requires new experiences to replace the old associations (De Houwer et al., 2005; Gawronski and Bodenhausen, 2006). Apologies and explanations that attempt to rationalize a trust violation will likely not change the negative implicit attitude that influences trust. Individuals in positions of power who have exploited others should consider
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that the only way to change the implicit attitude associated with trust may be through a change of behavior.

The current study suggests Emotion Management Ability may include the ability to suppress implicit attitude’s direct influence in favor of deliberation and analysis. Although this ability may not be beneficial in all situations, there are situations when reliance on Type 1 process can result in biased judgments and decision-making. In these situations, overriding implicit bias in favor of deliberation and analysis will help prevent errors due biased judgments and decisions. For example, Kahneman and Klein (2009) stress that expertise can often determine whether or not an individual should rely on Type 1 process to inform their judgments and decisions. According to these researchers, individuals may lack expertise either because of inexperience or their working environment is too unpredictable to allow expertise to develop. For example, Kahneman and Klein (2009) have identified the stock market and weather forecasting as environments where true expertise cannot be developed. In these environments individuals who rely on Type 1 process are much more likely to make errors due to inaccurate implicit biases. When possible, these individuals should suppress Type 1 process in favor of deliberation and analysis. Emotion Management Ability could be used to help inform selection for employment in these jobs. Individuals with low Emotion Management Ability might not be suited for jobs where overriding Type 1 process can consistently benefit performance.

Further investigation of Emotion Management Ability is needed before it should be considered as a selection tool. In particular, researchers need to investigate the generalizability of this individual difference beyond interpersonal relationships. Emotion Management Ability may have no impact on one’s ability or tendency to override implicit biases in domains outside of interpersonal relationships such as the stock market or weather forecasting. Also, researchers
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need to better understand when individuals use their ability to override Type 1 process. If Emotion Management Ability reflects a general preference for reliance on Type 2 process in all circumstances, selecting individuals with moderate to high Emotion Management Ability may be detrimental when responses can benefit from the direct influence of Type 1 process.

Limitations

One limitation of this study was the poor internal consistency of the STEM-B. The low Cronbach’s alpha makes it difficult to conclude that the researcher was actually measuring a single construct. Previous research does not suggest that Emotion Management Ability is a multi-dimensional construct. Therefore, the researcher cannot conclude that the poor internal consistency reflects a meaningful underlying factor structure. Also, item analysis and data screening revealed that the poor internal consistency was not solely a result of one or two poorly worded items or outliers in the data. As a result, strong conclusions should not be drawn from the Emotion Management Ability findings in this study.

Whetzel and McDaniel (2009) argue the low internal consistency of SJT’s like the STEM-B should not be surprising. According to these researchers, measures of internal consistency are not an appropriate assessment for the reliability of SJTs. These researchers argue that SJTs are often construct heterogeneous and therefore will not have high Cronbach’s alphas. Whetzel and McDaniel (2009) recommend using parallel forms or test-retest reliability as techniques to accurately assess the reliability of SJTs.

This researcher believed Cronbach’s alpha would be an appropriate assessment of the STEM-B’s reliability for two reasons. First, although previous research support for its internal consistency is limited, internal consistency was assessed as part of the measure’s development and it was found to be reliable (α = .84; Allen et al., in press). In addition, research suggests
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Emotion Management Ability is a single construct or sub-construct of EI (MacCann et al., 2014). Both previous evidence to support the STEM-B’s internal consistency and evidence to suggest Emotion Management Ability’s construct homogeneity support the use of Cronbach’s alpha as an appropriate assessment of reliability for this measure.

Another limitation with the current study is the researcher’s inability to make causal claims about the relationship between affect and trust. Although theory suggests affect contributes to change in trust (Lee & See, 2004; Schoorman et al., 2007), our research does not directly support this causal link. Given the nature of the correlational analyses and lack of temporal precedence (all measures were recorded at the same time pre and post exploitation) there are several other possible interpretations for the association between the variables. One possible interpretation is that exploitation causes both the changes in affect and trust. We have no evidence to support the theoretical claim that changes in affect caused change in trust or vice versa.

An additional limitation to the current study deals with the specific team environment manufactured in this study. In order to maintain a high degree of experimental control the team environment created for this study was unique and may not generalize to other environments. First, participant interaction with the teammates was very limited. Participants were not able to converse with their teammates other than to share their decisions in the financial decision-making task. There were no introductions and no opportunity for participants to provide explanations for their decisions or ask their teammates questions. In addition, this study was the participant’s first interaction with his or her teammates. Therefore, this study may only apply to teammates’ first impressions of each other. Also, the participants interacted with their teammates remotely for the entire study. All of these restrictions on interaction may have
Affective Component of Trust

created a social and emotional distance that may not exist in many real world teams. As a result, the artificiality of the team interaction may prevent the findings from generalizing to many team environments.

Finally, the exploitation manipulation was designed to affect both implicit and explicit attitude in the same direction. This manipulation makes it challenging to tease apart these two constructs. The researcher must rely solely on the measures to distinguish implicit from explicit attitude. However, the measures may not provide a clean distinction between the two. It is certainly possible and somewhat likely that implicit processes inform explicit attitude and vice versa. It is also possible that the explicit attitude measure captures both explicit and implicit processes. The contamination of Type 1 process in the explicit attitude measure may be the reason for the significant correlation between both measures. The extent to which participants relied on Type 1 process to complete the explicit attitude measure cannot be determined from the study.

Conclusions

The current study suggests being exploited by a teammate does result in a significant loss of trust and individuals who experience a strong negative affective reaction to this exploitation experience a greater loss of trust than those who do not have this response. In addition, it appears that high A individuals are more likely to develop a negative affective response to being exploited. Perhaps more importantly, this affective reaction cannot be completely accounted for by one’s perception of the teammate’s ability, benevolence and integrity. It appears that the relationship between affect and trust may not be completely mediated by cognitive factors as suggested by Schoorman et al. (2007).
Affective Component of Trust

Consistent with Giner-Sorolla (1999), the findings also suggest this affective component of trust may be comprised of both immediate evaluation and deliberative emotional response. The more deliberative emotional response appears to have a stronger, more direct role in trust development. In fact the researcher’s measure of deliberative emotional response, Affective Attitude Change, was one of the strongest predictors of trust loss in both trust measures. Immediate evaluation, as measured by Implicit Attitude Change, may play a more indirect role in trust development by influencing the deliberative emotional response. The findings suggest that one’s immediate evaluation may only directly predict trust for people with poor Emotion Management Ability. The study also suggests that individuals with moderate to high Emotion Management Ability may be more inclined to prevent their immediate affective evaluation from influencing their attitudes. Finally the current study is consistent with previous research (King-Casas et al. 2008) that found trust can be at least partially repaired after it has been damaged by exploitation.
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References


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doi: 10.1016/S0191-8869(02)00056-9


98
Affective Component of Trust


Affective Component of Trust


Affective Component of Trust

Affective Component of Trust

Appendix A
Mini-Markers

How Accurately Can You Describe Yourself?

Please use this list of common human traits to describe yourself as accurately as possible. Describe yourself as you see yourself at the present time, not as you wish to be in the future. Describe yourself as you are generally or typically, as compared with other persons you know of the same sex and of roughly your same age.

For each question, ask yourself: "does this word apply to me"? Then CIRCLE a number to indicate how accurately each adjective describes you, using the following rating scale:

9 = Extremely Accurate (applies very strongly)
8 = Very Accurate
7 = Moderately Accurate
6 = Slightly Accurate
5 = Neither Accurate nor Inaccurate (or unsure)
4 = Slightly Inaccurate
3 = Moderately Inaccurate
2 = Very Inaccurate
1 = Extremely Inaccurate (does not apply at all)

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Envious         1  2  3  4  5  6  7  8  9
Talkative       1  2  3  4  5  6  7  8  9
Extraverted     1  2  3  4  5  6  7  8  9
Temperamental   1  2  3  4  5  6  7  8  9
Fretful         1  2  3  4  5  6  7  8  9
Touchy          1  2  3  4  5  6  7  8  9
Harsh           1  2  3  4  5  6  7  8  9
Uncreative      1  2  3  4  5  6  7  8  9
Imaginative     1  2  3  4  5  6  7  8  9
Unenvious       1  2  3  4  5  6  7  8  9
Inefficient     1  2  3  4  5  6  7  8  9
Unintellectual  1  2  3  4  5  6  7  8  9
Intellectual    1  2  3  4  5  6  7  8  9
Unsympathetic  1  2  3  4  5  6  7  8  9
Jealous         1  2  3  4  5  6  7  8  9
Warm            1  2  3  4  5  6  7  8  9
Kind            1  2  3  4  5  6  7  8  9
Withdrawn      1  2  3  4  5  6  7  8  9
Appendix B
Example Picture Rating Measure

Mike

Please rate how much you would like to have Jill as your coworker based on your first impression.
Mark the scale with an X.

-100
0
+100

Dislike a lot
Like a lot
Affective Component of Trust

Appendix C
Self-Report Trust

How much do you like your teammate? Please Mark the scale with an X.

+-------------------------------------------------------+-----------------------+-----------------------+-----------------------+-----------------------+
|                                                   |                      |                      |                      |
| -100                                               |                      |                      |                      |
| Dislike a lot                                      |                      |                      |                      |

0

Like a lot

For the next set of questions read the following instructions:
Imagine you and your teammate work for the same company. Imagine you had to work directly with your teammate and your success in the company depended on him/her. Please rate your level of agreement with the following statements in reference to your teammate.

1. If I had my way, I wouldn't let this person have any influence over issues that are important to me.

   +-------------------------------------------------------+-----------------------+-----------------------+-----------------------+-----------------------+
   |                                                   |                      |                      |                      |
   | 1                                                   |                      |                      |                      |
   | Disagree Strongly                                   |                      |                      |                      |

   2

   3

   4

   5

   Agree Strongly

2. I would be willing to let this person have complete control over my future in this company.

   +-------------------------------------------------------+-----------------------+-----------------------+-----------------------+-----------------------+
   |                                                   |                      |                      |                      |
   | 1                                                   |                      |                      |                      |
   | Disagree Strongly                                   |                      |                      |                      |

   2

   3

   4

   5

   Agree Strongly

3. I would wish I had a good way to keep an eye on this person.

   +-------------------------------------------------------+-----------------------+-----------------------+-----------------------+-----------------------+
   |                                                   |                      |                      |                      |
   | 1                                                   |                      |                      |                      |
   | Disagree Strongly                                   |                      |                      |                      |

   2

   3

   4

   5

   Agree Strongly

4. I would be comfortable giving this person a task or problem which was critical to me, even if I could not monitor their actions.

   +-------------------------------------------------------+-----------------------+-----------------------+-----------------------+-----------------------+
   |                                                   |                      |                      |                      |
   | 1                                                   |                      |                      |                      |
   | Disagree Strongly                                   |                      |                      |                      |

   2

   3

   4

   5

   Agree Strongly
Affective Component of Trust

5. I would tell this person about mistakes I've made on the job, even if they could damage my reputation.

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6. I would share my opinion about sensitive issues with this person even if my opinion were unpopular.

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7. I am afraid of what this person might do to me at work.

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8. If this person asked why a problem happened, I would speak freely even if I were partly to blame.

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9. If someone questioned this person's motives, I would give him/her the benefit of the doubt.

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10. If this person asked me for something, I would respond without thinking about whether it might be held against me.

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Appendix D

Economic Offer Measure

Please answer the question below based on the following scenario: The experimenter gives you $10 of actual money and you have the opportunity to give some, all or none to your teammate. Each dollar sent to your teammate will be quadrupled. For example, if you choose to give $2, it will turn into $8. If you choose to share $4, it will turn into $16, etc. Your teammate will then either share what they have received from you or will keep all of it.

See the example below . . .

You decide to share $8 of your money with them.

The money will be quadrupled (becoming $32).

If your partner decided to share the money, you will receive $16 back and they will keep $16. You will have doubled what you shared.

If your partner decided to keep the money, you will receive $0 back and they will keep $32. You will lose the money you shared.

We will not share your decision with your teammate. Mark the scale below with an X to indicate how much money you would give your teammate.
Affective Component of Trust

Appendix E
Perceived Trustworthiness Measure

Think about your teammate and for each statement, mark on the scale the spot that best describes how much you agree or disagree with each statement.

1. My teammate is very capable of performing his or her job.

\[\begin{array}{cccccc}
& 1 & 2 & 3 & 4 & 5 \\
Disagree Strongly & & & & & Agree Strongly \\
\end{array}\]

2. My teammate is known to be successful at the things he or she tries to do.

\[\begin{array}{cccccc}
& 1 & 2 & 3 & 4 & 5 \\
Disagree Strongly & & & & & Agree Strongly \\
\end{array}\]

3. My teammate has much knowledge about the work that needs done.

\[\begin{array}{cccccc}
& 1 & 2 & 3 & 4 & 5 \\
Disagree Strongly & & & & & Agree Strongly \\
\end{array}\]

4. I feel very confident about my teammate’s skills.

\[\begin{array}{cccccc}
& 1 & 2 & 3 & 4 & 5 \\
Disagree Strongly & & & & & Agree Strongly \\
\end{array}\]

5. My teammate has specialized capabilities that can increase our team’s performance

\[\begin{array}{cccccc}
& 1 & 2 & 3 & 4 & 5 \\
Disagree Strongly & & & & & Agree Strongly \\
\end{array}\]
Affective Component of Trust

6. My teammate is well qualified.
   +---------------------------------+
   1 2 3 4 5
Disagree Strongly Agree Strongly

7. My teammate is very concerned about my welfare.
   +---------------------------------+
   1 2 3 4 5
Disagree Strongly Agree Strongly

8. My needs and desires are very important to my teammate
   +---------------------------------+
   1 2 3 4 5
Disagree Strongly Agree Strongly

9. My teammate would no knowingly do anything to hurt me.
   +---------------------------------+
   1 2 3 4 5
Disagree Strongly Agree Strongly

10. My teammate really looks out for what is important to me.
    +---------------------------------+
    1 2 3 4 5
Disagree Strongly Agree Strongly

11. My teammate will go out of his or her way to help me.
    +---------------------------------+
    1 2 3 4 5
Disagree Strongly Agree Strongly
Affective Component of Trust

12. My teammate has a strong sense of justice.
   +---------------------------------------------------+
   1 2 3 4 5

   Disagree Strongly          Agree Strongly

13. I never have to wonder whether my teammate will stick to his or her word.
   +---------------------------------------------------+
   1 2 3 4 5

   Disagree Strongly          Agree Strongly

14. My teammate tries hard to be fair in dealings with others.
   +---------------------------------------------------+
   1 2 3 4 5

   Disagree Strongly          Agree Strongly

15. My teammate’s actions and behaviors are not very consistent.
   +---------------------------------------------------+
   1 2 3 4 5

   Disagree Strongly          Agree Strongly

16. I like my teammate’s values.
   +---------------------------------------------------+
   1 2 3 4 5

   Disagree Strongly          Agree Strongly

17. Sound principles seem to guide my teammate’s behavior.
   +---------------------------------------------------+
   1 2 3 4 5

   Disagree Strongly          Agree Strongly
Please provide some general information about yourself.

Age............... (years)                      Sex.  M  F  (Circle one)
Occupation.........................................................
If student, state your major.................................
Date today....................                      Time of day now............
Affective Component of Trust

Appendix G

Situation Judgment Test of Emotion Management-Brief (STEM-B)

In this test, you will be presented with a few brief details about an emotional situation, and asked to choose from four responses the most effective course of action to manage both the emotions the person is feeling and the problems they face in that situation.

Although more than one course of action might be acceptable, you are asked to choose what you think the most effective response for that person in that situation would be.

Remember, you are not necessarily choosing what you would do, or the nicest thing to do, but choosing the most effective response for that situation.

1. Wai-Hin and Connie have shared an office for years but Wai-Hin gets a new job and Connie loses contact with her. *What action would be the most effective for Connie?*
   (a) Just accept that she is gone and the friendship is over.
   (b) Ring Wai-Hin and ask her out for lunch or coffee to catch up.
   (c) Contact Wai-Hin and arrange to catch up but also make friends with her replacement.
   (d) Spend time getting to know the other people in the office, and strike up new friendships.

2. Manual is only a few years from retirement when he finds out his position will no longer exist, although he will still have a job with a less prestigious role. *What action would be the most effective for Manual?*
   (a) Carefully consider his options and discuss it with his family.
   (b) Talk to his boss or the management about it.
   (c) Accept the situation, but still feel bitter about it.
   (d) Walk out of that job.

3. Surbhi starts a new job where he doesn’t know anyone and finds that no one is particularly friendly. *What action would be the most effective for Surbhi?*
   (a) Have fun with his friends outside of work hours.
   (b) Concentrate on doing his work well at the new job.
   (c) Make an effort to talk to people and be friendly himself.
   (d) Leave the job and find one with a better environment.

4. Andre moves away from the city his friends and family are in. He finds his friends make less effort to keep in contact than he thought they would. *What action would be the most effective for Andre?*
   (a) Try to adjust to life in the new city by joining clubs and activities there.
   (b) He should make the effort to contact them, but also try to meet people in his new city.
   (c) Let go of his old friends, who have shown themselves to be unreliable.
   (d) Tell his friends he is disappointed in them for not contacting him.
5. Clayton has been overseas for a long time and returns to visit his family. So much has changed that Clayton feels left out. What action would be the most effective for Clayton?
(a) Nothing – it will sort itself out soon enough.
(b) Tell his family he feels left out.
(c) Spend time listening and getting involved again.
(d) Reflect that relationships can change with time.

6. Daniel has been accepted for a prestigious position in a different country from his family, who he is close to. He and his wife decide it is worth relocating. What action would be the most effective for Daniel?
(a) Realize he shouldn’t have applied for the job if he didn’t want to leave.
(b) Set up a system for staying in touch, like weekly phone calls or emails.
(c) Think about the great opportunities this change offers.
(d) Don’t take the position.

7. Mei Ling answers the phone and hears that close relatives are in hospital critically ill. What action would be the most effective for Mei Ling?
(a) Let herself cry and express emotion for as long as she feels like.
(b) Speak to other family to calm herself and find out what is happening, then visit the hospital.
(c) There is nothing she can do.
(d) Visit the hospital and ask staff about their condition.

8. Shona has not spoken to her nephew for months, whereas when he was younger they were very close. She rings him but he can only talk for five minutes. What action would be the most effective for Shona?
(a) Realize that he is growing up and might not want to spend so much time with his family any more.
(b) Make plans to drop by and visit him in person and have a good chat.
(c) Understand that relationships change, but keep calling him from time to time.
(d) Be upset about it, but realize there is nothing she can do.

9. Mina and her sister-in-law normally get along quite well, and the sister-in-law regularly baby-sits for her for a small fee. Lately she has also been cleaning away cobwebs, commenting on the mess, which Mina finds insulting. What action would be the most effective for Mina?
(a) Tell her sister-in-law these comments upset her.
(b) Get a new babysitter.
(c) Be grateful her house is being cleaned for free.
(d) Tell her only to baby-sit, not to clean.

10. Juno is fairly sure his company is going down and his job is under threat. It is a large company and nothing official has been said. What action would be the most effective for Juno?
(a) Find out what is happening and discuss his concerns with his family.
(b) Try to keep the company afloat by working harder.
(c) Start applying for other jobs.
(d) Think of these events as an opportunity for a new start.
Affective Component of Trust

11. Mallory moves from a small company to a very large one, where there is little personal contact, which she misses. What action would be the most effective for Mallory?
(a) Talk to her workmates, try to create social contacts and make friends.
(b) Start looking for a new job so she can leave that environment.
(c) Just give it time, and things will be okay.
(d) Concentrate on her outside-work friends and colleagues from previous jobs.

12. A demanding client takes up a lot of Jill’s time and then asks to speak to Jill’s boss about her performance. Although Jill’s boss assures her that her performance is fine, Jill feels upset. What action would be the most effective for Jill?
(a) Talk to her friends or workmates about it.
(b) Ignore the incident and move on to her next task.
(c) Calm down by taking deep breaths or going for a short walk.
(d) Think that she has been successful in the past and this client being difficult is not her fault.

13. Blair and Flynn usually go to a cafe after the working week and chat about what’s going on in the company. After Blair’s job is moved to a different section in the company, he stops coming to the cafe. Flynn misses these Friday talks. What action would be the most effective for Flynn?
(a) Go to the cafe or socialize with other workers.
(b) Don’t worry about it, ignore the changes and let Blair be.
(c) Not talk to Blair again.
(d) Invite Blair again, maybe rescheduling for another time.

14. Michelle’s friend Dara is moving overseas to live with her partner. They have been good friends for many years and Dara is unlikely to come back. What action would be the most effective for Michelle?
(a) Forget about Dara.
(b) Spend time with other friends, keeping herself busy.
(c) Think that Dara and her partner will return soon.
(d) Make sure she keeps in contact through email, phone or letter writing.

15. Hannah’s access to essential resources has been delayed and her work is way behind schedule. Her progress report makes no mention of the lack of resources. What action would be the most effective for Hannah?
(a) Explain the lack of resources to her boss or to management.
(b) Learn that she should plan ahead for next time.
(c) Document the lack of resources in her progress report.
(d) Don’t worry about it.

16. Reece’s friend points out that her young children seem to be developing more quickly than Reece’s. Reece sees that this is true. What action would be the most effective for Reece?
(a) Talk the issue over with another friend.
(b) Angrily confront her friend about making such statements.
(c) Realize that children develop at different rates.
(d) Talk to a doctor about what the normal rates of development are.
17. Jumah has been working at a new job part-time while he studies. His shift times for the week are changed at the last minute, without consulting him. *What action would be the most effective for Jumah?*
(a) Refuse to work the new shifts.
(b) Find out if there is some reasonable explanation for the shift changes.
(c) Tell the manager in charge of shifts that he is not happy about it.
(d) Grumpily accept the changes and do the shifts.

18. Julie hasn’t seen Ka for ages and looks forward to their weekend trip away. However, Ka has changed a lot and Julie finds that she is no longer an interesting companion. *What action would be the most effective for Julie?*
(a) Cancel the trip and go home.
(b) Realize that it is time to give up the friendship and move on.
(c) Understand that people change, so move on, but remember the good times.
(d) Concentrate on her other, more rewarding friendships.
Affective Component of Trust

Appendix H
Letter Sets

Example items and instructions are as follows:

LETTER SETS TEST -- I-1 (Rev.)

Each problem in this test has five sets of letters with four letters in each set. Four of the sets of letters are alike in some way. You are to find the rule that makes these four sets alike. The fifth letter set is different from them and will not fit this rule. Draw an X through the set of letters that is different.

NOTE: The rules will not be based on the sounds of sets of letters, the shapes of letters, or whether letter combinations form words or parts of words.

Examples:

A. NOPQ DEFL ABCD HIJK UVWX
   B. NLIK PLIK QLIK THIK VLIK

In Example A, four of the sets have letters in alphabetical order. An X has therefore been drawn through DEFL. In Example B, four of the sets contain the letter L. Therefore, an X has been drawn through THIK.

Your score on this test will be the number of problems marked correctly minus a fraction of the number marked incorrectly. Therefore, it will not be to your advantage to guess unless you are able to eliminate one or more of the letter sets.

You will be allowed 7 minutes for each of the two parts of this test. Each part has 1 page. When you have finished Part 1, STOP. Please do not go on to Part 2 until you are asked to do so.

DO NOT TURN THIS PAGE UNTIL ASKED TO DO SO